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THE JOURNAL OF DENTAL MEDICINE

Editorial

With this issue of the Journal of Dental Medicine, we are inaugurating a policy of publishing summaries of the articles appearing in our Journal in an international language known as Interlingua. This idea was suggested to your editor by Dr. Samuel Charles Miller, Past President of the American Academy of Dental Medicine, who felt that the use of Interlingua in scientific summaries would help to eliminate the language barriers that exist among our dental colleagues all over the world. During the last few years our Journal has received increasing attention from dentists in Canada, Mexico, Central and South America. In addition, requests for copies of the Journal of Dental Medicine have come from Spain, Italy, France and the Scandinavian Countries. Interlingua extracts and synthesizes all the elements common to the various European languages into a logical, readily understandable, new supranational tongue.

Interlingua embodies all the elements which the more widely used languages have in common. Since the terminologies of science and technology in all languages make extensive use of Greco-Latin word material, Interlingua has the appearance of a language evolved directly from them.

Dr. Alexander Gode of New York said in a recent article,[1] "Strictly speaking, the language is not constructed but extracted. It aims to be simultanously French, English, Spanish, Portuguese, etc.," each one of these languages streamlined according to a set plan. For our dental colleagues all over the world who have a Romance language background, Interlingua should be read with ease. In time, German, Russian and Oriental languages will contribute to the development of Interlingua.

The Journal of Dental Medicine is the first dental periodical to print summaries of its articles in Interlingua. To our knowledge, only two other medical journals[2] publish summaries in this new scientific language. We hope that the use of Interlingua in our Journal will increase our international circulation, but more important is the undoubted increase in usefulness of our Journal to our foreign colleagues. Most scientific journals exist to serve as conveyors of information, and Interlingua summaries enable them to serve more efficiently and smoothly.

The success of this new experiment in dental journalism will depend on the opinion of our readers and we invite your criticism and reaction to this new project. With the active participation of Dr. Alexander Gode and his staff, and the Interlingua Division of Science Service, the development of a common international language such as Interlingua will greatly aid in the dissemination of dental literature throughout the world.

I.Y.

1. Gode, Alexander, The case for Interlingua. Scient. Monthly, 77:80, 1953.
2. The Quarterly Bulletin of Sea View Hospital, Staten Island, N. Y., and Blood, The Journal of Hematology.

SUMMARIO IN INTERLINGUA

Con iste numero del Jornal de Medicina Dental nos introduce le practica de publicar summarios del articulos individual in le lingua international cognoscite come "interlingua." Iste plano esseva proponite a vostre redactor per doctor Samuel Charles Miller, ex-Presidente del Academia American de Medicina Dental, qui opinava que le uso de interlingua in summarios scientific contribuerea a eliminar le barrieras linguistic que existe inter nostre collegas dental in omne partes del mundo. In le curso del annos recentemente passate nostre jornal ha essite le objecto de un semper crescente attention del parte de dentistas in Canada, Mexico, e Central e Sud-America. In plus requestas pro exemplares del Jornal de Medicina Dental ha venite ab Espania, Italia, Francia, e le paises scandinave.

Interlingua incorpora omne le elementos que le linguas de extense currentia ha in commun. Proque le terminologias scientific e technologic in omne linguas usa in grande mesura materiales verbal de origine greco-latin, interlingua ha le apparentia de un lingua evolvite directemente ab illos. Pro nostre collegas dental in omne partes del mundo, in tanto que illes es familiar con un lingua roman, interlingua va certo esser comprensibile sin difficultate.

Le Jornal de Medicina Dental es le prime periodico dental que publica summarios de su articulos in interlingua. Nos spera que le uso de interlingua in nostre jornal va extender su circulation, sed plus importante es le indubitabile augmento in utilitate de nostre jornal pro nostre collegas al extero. Periodicos scientific existe super toto pro distribuer novas e informationes, e summarios in interlingua augmenta lor capacitate a render iste servicio in un melior e plus efficace maniera.

Il va sin dicer, le successo de iste nove experimento in le dominio del jornalismo dental depende del reaction de nostre lectores. Pro iste ration nos vos invita a communicar a nos vostre commentos e criticas relative al projecto hic presentate.

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PERIODONTIA, DIAGNOSIS AND TREATMENT*†

Samuel Charles Miller, D.D.S., F.A.C.D., F.A.D.M.‡

The study of periodontia has expanded rapidly during the past few years. More than ever before, the inter-relationship between the various phases of general health and oral dysfunction becomes apparent.

The treatment of periodontal disease requires a well planned and orderly procedure. To obtain effective and long lasting results from periodontal therapy one must understand the underlying premise of the etiology of periodontal aberrations. Basically this disturbance is produced by a combination of factors from three large groups: dysfunctional, irritational and systemic.[1] Rarely if ever can one factor produce the disease. By the same token, no single panacea can effect a cure. A combination of factors contributes to the etiology, and a combination of therapeutic measures is necessary to eradicate the disease.

It is possible to utilize the contributions of the men who have preceded us in the advancement of our present knowledge. This generation is influenced daily by the work of men like Paul R. Stillman, Arthur Merritt, John Oppie McCall, A. W. Ward, Isadore Hirschfeld and others of their era. The following is not an original discovery. It is rather a development based on a combination of thoughts of many men in every part of this country and abroad now and in the past.

Some practitioners have felt that periodontal disease is incurable. In 1935 an editorial by Dr. C. N. Johnson,[2] editor of the *Journal of the American Dental Association,* stated: "The most surely fatal edict that has ever been permitted to go out in connection with the subject is that pyorrhea cannot be cured. Of course it cannot be cured when the hapless member is left prone and wobbling in a mass of flabby and unregenerate tissue. Miracles are not performed in this latter day. However, the manner in which the teeth tighten and become firm when the cause is discovered and the proper remedy is applied, surely borders on the miraculous. To make the off-hand statement that pyorrhea cannot be cured and let it go at that is a travesty on fact and an acknowledgement of gross inefficiency on the part of the one who makes it."

This is not the statement of a periodontist but of an alert dental editor and was made at a time when many in the profession felt that *pyorrhea* could not be cured. By cure is meant bone regeneration, tightening of loose teeth so that they may be used even as abutments, a cessation of the flow of purulent exudate and the reattachment and return to contour of loose soft tissues. The fundamental of treatment is the removal of the causes.

Periodontal disease is not caused by infection. This statement is true for necrotizing ulcerative gingivitis as well as most other periodontal disturbances. However, the presence of microorganisms and their products in periodontal disease causing focal infection can be very important to the patient. A case of periodontal disease with shallow pockets on each tooth can, when the entire surface that is involved is considered, involve an area the size of a postcard from which microorganisms and noxious materials can be absorbed. It is important to consider that periodontal pockets hold abundant bacteria and their toxins which can be absorbed rapidly into the system. When chewing upon periodontally involved teeth, bacteria and toxins may be pumped into the system where they are found in the circulatory blood within ten minutes after the meal. The effect upon a patient with such conditions as bacterial endocarditis or vascular or respirating

* Synopsis of one day postgraduate course for California Dental Association, Nov. 23, 1953.

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† Synopsis prepared by J. Lewis Blass, Ph.G., D.D.S. Associate Professor, and Marvin N. Okun, D.D.S. Instructor, Periodontia Department, New York University College of Dentistry.

disease would be serious. In addition, chemical changes occur in tissues undergoing active inflammation which produce materials such as histamine, H-substances and necrosin that can have harmful effects on other parts of the body.

The issue of the *Journal of the American Dental Association*[3] which presented the thesis that focal infection was not important in dentistry should be carefully evaluated. The mouth is not a mechanical or biologic entity isolated from the rest of the body system. The teeth can affect the efficiency of digestion; they can affect the emotional status of the patient by alterations in appearance; and of course, they can affect the general health by absorption of microorganisms, chemicals, and toxins. It must be remembered that it is the periodontally involved teeth that affect the patient far more than periapical involvements. Certainly more cases of osteomyelitis and deep neck infections are reported in people with periodontal disease rather than periapical disease.

The following discussion will briefly consider a few of the local and systemic etiologic factors responsible for periodontal disturbances.

SYSTEMIC DISEASE

Systemic diseases, gall bladder inflammations and other gastrointestinal disturbances, endocrine dysfunction such as hypothyroidism, hyperthyroidism or diabetes can be factors in the etiology of periodontal disturbance. For example, the hyperthyroid individual excretes more calcium and phosphorus while the hypothyroid person has a higher serum cholesterol. Gofman[5] has shown that while there are over a hundred types of cholesterol as determined by the ultra-centrifuge, only about eight or so are important in the production of atherosclerosis. The important fact to consider in evaluating a high cholesterol report is that by the administration to the patient of thyroid or a properly balanced diet of meat, vegetables, skimmed milk and dairy products the cholesterol can be reduced and the patient made more resistant to periodontal disease. Stahl, Wisan and Miller[6] showed that diseases which interfere with circulation or protein metabolism induce a greater susceptibility to periodontal disease.

A consideration of cholesterol is probably more important in diabetes than the blood sugar. A rise in cholesterol is more significant than an increase in sugar because the former produces more side effects. In fact, some now state that the sugar rises to protect the patient against stressing factors. The person under tension also utilizes more calcium. This accounts for the greater alveoloclasia in people under great emotional strain. As Selye stated, when one comes to the period of exhaustion in the general adaptation syndrome calcium is taken from the bones to keep the system under control. Alveoloclasia can also be associated with hyperparathyroidism, pregnancy and many other bodily aberrations.

PSYCHOSOMATICS

A method was just mentioned by which emotional tension, physical exhaustion and psychic aberrations could cause alveoloclasia. Bruxism must also be considered. Clenching of the teeth, which can be classified with traumatic occlusion in its injurious effects, has an emotional background. An underlying aggression which is controlled by gritting of the teeth may be the cause. People who grit their teeth should not be told to "stop biting or stop clenching" but should be given a positive means of coping with the problem. These patients should be advised to form the habit of "lips together, teeth apart." The dentist can by understanding, rapport, and reassurance give the patient a greater feeling of security. Medical journals tell the physician to be more understanding of his patients so that they can be more relaxed and comprehend what he is trying to do for them. By attention to the psyche, many rid themselves of such emotional habits as fingernail biting, lip biting and bruxism while either working or resting. This is simple and easy. The patient must develop confidence in the doctor so that when he presents ideas they will be accepted.

IATROGENIC DISEASES

Diseases caused by treatment have increasing attention lately. With the advent of cortisone therapy, an iatrogenic effect referable to delayed postoperative healing may be seen. The

patient's ability to heal following surgery such as gingivectomy may be decreased and the treatment might result in failure. Gingivectomy performed when not indicated, use of caustics and destructive agents on the periodontal tissues, the too free employment of antibiotics changing the intestinal and oral flora to invite nutritional deficiencies or fungus infestations, the placements of inlays, bridges or other restorations out of harmony with the occlusion, making them traumatogenic, are all examples of iatrogenic diseases in dentistry.

Care should be taken in case presentation not to instill thoughts of danger or dire aspects of the presence of this or other oral diseases. Simple and understandable language should be employed to avoid initiation of emotional tensions from the prescription.

FOOD IMPACTION

Food impaction is an important factor in the cause of periodontal disturbances. There are two types: vertical and horizontal. Vertical food impaction is due to occlusal pressure, while the lateral type is effected by the impaction of food interproximally through the action of the tongue or cheek muscles. The mechanism of vertical food impaction involves a plunger cusp and an unprotected gingival margin. The elimination of food impaction of the vertical type is accomplished by rounding off the plunger cusp that wedges between the opposing teeth and forces the food between them. In discussing food impaction and contact surfaces between teeth it must be emphasized that only in the anterior region is a contact *point* present. This widens to a line in the bicuspid region and a still wider line on the molars. Even when molar crowns are soldered together, food impaction may occur if the area of soldered contact is not wide enough bucco-lingually to protect the interproximal tissues.

Horizontal food impaction occurs most often between the second and third molars on the buccal surfaces and between the lower incisors from the lingual surfaces. In the latter case, it often is helpful to construct a lingual acrylic appliance to keep the tongue from forcing between the teeth. This may be utilized until the habit is broken.

NONOCCLUSION

The most serious cause of underfunction is nonocclusion, in which the teeth do not meet in any position that the mandible may assume.

Teeth in an open bite relationship are not necessarily nonfunctioning. On the contrary, such teeth are frequently in traumatic occlusion from the pressure of the tongue, cheek, or lips. Bone and the position of the teeth are secondary to presence and the action of soft tissue and muscles. It is also changed by chemical, mechanical and emotional impacts upon it.

Cases of nonocclusion may be caused by tongue thrusting and biting habits, and can often be diagnosed by testing for the gag reflex which is usually weak or absent in these patients. The absence of or the reduced pharangeal sensitivity causes these patients to thrust their tongues forward in swallowing so that they can feel opposition. It is this tongue thrusting between the anterior teeth that can cause nonocclusion or migration of the anterior teeth. Such a patient should be retrained to swallow with the tip of the tongue against the rugae of the palate. Correction of the position of the tongue in swallowing permits the anterior teeth to come together within one year, even in older patients unless other interferences are present. Another method is to teach the patient to place the tongue against the lingual surface of the lower anterior gingivae while swallowing. Asnis[7] has devised a simple retraining appliance.

TRAUMATIC OCCLUSION

Overfunction includes any simple stress such as that created by a high inlay, long cusp, malposition or any other influence such as habit which causes excessive and recurrent pressure of a tooth or teeth. It may also be due to insufficient support or to abnormal masticatory musculature. Because of these various causes of traumatic occlusion, two types have been described by Box,[8] namely, primary and secondary traumatic occlusion.

Primary traumatic occlusion is due to excessive occlusal pressure. Secondary traumatic occlusion results from weakened periodontal support. There were some men who pioneered in this field that had the erroneous impression that the excessive pressure on teeth was the sole cause of traumatic occlusion. Others used as a contradictory example the cases with diabetes that developed tooth migration and bone loss. Actually, no disagreement is present. Diabetes lowers resistance in the periodontal structures and permits the pressures on the teeth to become more destructive.

A youngster with a periodontal disease and ordinarily innocuous intercuspation may be considered to have a susceptibility to periodontal disease beyond his age. This is premature aging manifested in the periodontal area. It most likely accompanies other systemic changes that are not readily discernable by methods of investigation available today. Precocious advanced alveolor atrophy fits this category of lowered resistance to an ordinarily innocuous occlusal component.

Gottlieb spoke of the continuous eruption of teeth, as did Hippocrates in 460 B.C. who said: "Teeth will continue to erupt, and as they do, they are worn down." Continuous eruption is a normal physiologic process both through apical increment and the continuous growth of bone in the direction of least resistance. In non-occlusion, when the tongue pressure is stopped, the teeth will resume their eruption into contact.

When occlusal equilibration is executed properly, continuous normal wear and function should continue to keep the teeth in proper relationship with the possibly occasional reduction of a prematurity on a cusp or plane.

Occlusal balancing for artificial dentures is different from that in the natural dentition. Ward[9] prefers the term 'harmonizing the occlusion.' It is a good term because one creates a physiologic occlusion. A balanced, but locked occlusion would be unsatisfactory.

As many teeth as possible with similar function should be made to contact in the various positions. To have one anterior tooth and four posteriors working at the same time would lead to damage to the anterior tooth. Four teeth functioning on the working side are less likely to be traumatized than two on the working and two on the balancing side.

Horizontal stresses are more harmful than vertical stresses. A vertical load placed on a tooth is usually within limits. However, overload even in a vertical direction may be pathogenic and can cause osteofibrotic changes in the apical region. Overloading can produce either greater alveolar density or, when the stress is beyond physiologic limits, osteoclasia results. Large areas at the apices of vital teeth with conical shaped roots and excessive vertical stress may be due to this overloading and may be healed by correction of the occlusion. The pressure may be due to fingernail-biting or other biting habits as well as to traumatic occlusion in a vertical direction.

Horizontal stresses bring small portions of the periodontium into function because the center of rotation of the tooth is in the lower part of the root. Changes are thus created in small areas of the periodontal membrane and alveolar process. Even if a tooth seems to receive only vertical stress, the possibility of a horizontal component should not be overlooked. Stresses can be brought within the limitations of physiologic support by reducing or sometimes simply changing the direction of the biting force.

Buccal cusps should be approximately the same length as lingual cusps, to avoid damage to supporting bone. Roentgenograms must be studied carefully to discover effects of traumatic occlusion. Clinically, gingival changes, mobility or tooth migration may be the symptoms of traumatic occlusion. Food impaction is a common cause of interproximal cavitation.

In occlusal equilibration the grinding should restore to the teeth proper contours and esthetics as well as function. Bevels are not produced on lower anterior teeth, but only on the lingual aspects of the upper anteriors for incisal guidance.

The relationship of age to cusp form considers the wear of teeth which creates a more shallow axial inclination to compensate for the gradual weakening of the alveolar support. A

narrowing of the occlusal table in reshaping is a dental rejuvenating process.

In checking centric occlusion, the occlusal sound, patient's sensitivity, articulating paper, palpation, or soft wax all may be used to uncover prematurities.

Not every case can be handled by equilibration alone. Some need orthodontic regulation or rehabilitation with occlusal equilibration as only one phase of the treatment. Various combinations of etiologic factors gradually and quickly transform the case from health to disease.

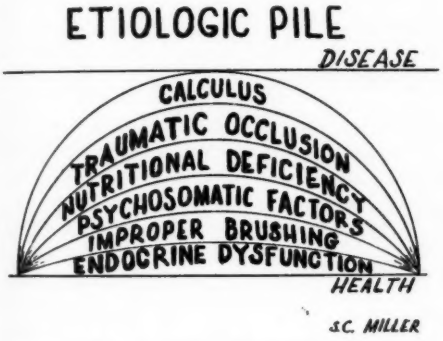

Fig. 1—Health is basic. It is necessary for several factors to operate to produce periodontal disease.

The elimination of one factor such as calculus in the diagram may eliminate the clinical manifestations by transforming the case into the subclinical level. The susceptibility to disease is still present. (Fig. 1.)

Such a result simply brings the etiologic load down one step and leaves a subclinical case which is ready to flare up whenever a new factor comes into operation or some of those already present become accentuated. In the same way, correction of nutrition or treatment of occlusion or of any other single factor will not supply the complete answer.

TEMPOROMANDIBULAR JOINT DYSFUNCTIONS

Temporomandibular joint problems belong in the province of the dentist. Ninety per cent of these disturbing functions are due to occlusal abnormalities. For the diagnosis of arthrogryposis, the roentgenogram is unreliable, confusing and of very little value in diagnosis of these cases. It helps only in determining the depth of the fossa and type of joint or in the study of fractures, and other nonfunctional diseases.

The joint is not a machine; it is a biomechanical combination of ligaments, blood vessels, nerves, muscles and bone. Biochemical as well as physiologic and anatomic factors play a role in such cases. As opening occurs from 0 to 3 mm. there is a hinge action with little change in the position of the head of the condyle. From that level a gliding occurs until at 30 to 35 mm. opening the head of the condyle is usually opposite the articular eminence in the moderately concave joint. With a flat joint the movement is chiefly one of gliding. In the steep markedly concave joint there is more vertical movement with a deeper overbite and more hinge action. No attempt should be made to convert a true deep overbite case to a shallow one because joint injury is likely. Ninety percent of the functional joint problems presented to the dentist occur in the approximately five percent of the population which has a markedly concave joint.

Joint pain need not be caused by nerve impingement alone; it may be the result of fatigue, edema, or muscular spasm. At least five nerves are associated with the temporomandibular joint which may have varying effects of their own on the patient.[10]

Systemic manifestations such as scurvy, arthritis or Marie Strumple's disease may cause temporomandibular joint pain. When the cause is systemic pain it usually is present on arising, and is alleviated during function. The pain of local origin is accentuated by mastication and relieved by rest. Sleeping habits or hand-jaw position during the day may initiate pressures on the condyle and cause pain. Unilateral mastication, elongated third molars which push the mandible forward or backward, tissue hypersensitivity which makes the patient move the mandible backward in unnatural positions may give rise to compression of the joint. Corrective

treatment for temporomandibular joint dysfunction is usually simple and highly successful.*

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The author is indebted to Dr. Samuel Bleadon of San Francisco, California, for recording and transcribing the material presented during the one day postgraduate course for the California Dental Association.

* For complete discussion of the temporomandibular joint the reader is referred to Dr. Miller's article on this subject in a previous issue of the Journal of Dental Medicine. (See Bibliographical reference 10.)

BIBLIOGRAPHY

1. Miller, Samuel C., Textbook of Periodontia, 3rd edition, Philadelphia, The Blakiston Co., 1950.
2. Johnson, C. N., Once More (Editorial), J.A.D.A., 22:304-306 (Feb.) 1935.
3. An Evaluation of the Effect of Dental Foci of Infection on Health—(Entire issue devoted to subject.) J.A.D.A. 42:6.612-697, June 1951.
4. Selye, Hans, The Physiology and Pathology of Exposure to Stress. Montreal, Acta, Inc., 1950.
5. Gofman, J. W., Diet and lipotrophic agents in atherosclerosis, Bull. New York Acad. Med. 28:279-293, May 1952.
6. Stahl, S. S., Wisan, J. M., Miller, S. C., Influence of systemic disease on alveolar bone, J.A.D.A. 45:277-283.
7. Asnis, S. T., Guide for tongue training. J.D. Med. 8:108-109, July 1953
8. Box, H. K., Traumatic occlusion and traumatogenic occlusion, Oral Health, 20:642-646 (Dec.) 1930.
9. Ward, A. W., Inharmonious cusp relation as a factor in periodontoclasia. J.A.D.A. 10:47-479, 1923.
10. Miller, Samuel C., Practical solution to the prevention and cure of temporomandebular joint disturbance. J.D. Med. 8:43-48, Apr. 1953.

PERIODONTIA, DIAGNOSE E THERAPIA

Per Dr. chir. dent. Samuel Charles Miller (F.A.C.D., F.A.D.M.)

SUMMARIO IN INTERLINGUA

Pro obtener efficace e perdurante resultatos de therapia periodontal, on debe comprender le premissas etiologic del aberrationes involvite. Fundamentalmente le disordine periodontal resulta del combination de factores in tres large categorias: dysfunctional, irritational, e systemic. Un sol factor suffice rarmente o nunquam a producer le morbo. E correspondentemente nulle sol panacea pote effectuar le curation in omne casos. Un combination de factores contribue al etiologia, e un combination de mesuras es necessari pro le therapia. Le base es bon sanitate, e le declaration del morbo periodontal pote solo resultar del cooperation de varie factores.—Vide fig. 1.

Le morbo periodontal non es causate per infectiones. Iste observation es correcte pro necrosante gingivitis ulcerative como etiam pro le majoritate del altere disordines periodontal. Nonobstante, le presentia de microorganismos e lor productos pote generar infectiones e assi pote devenir multo importante per su effectos super le stato de sanitate general del patiente. In un caso de morbo periodontal con saccos comparativemente superficial in le area circa le majoritate del dentes le superficie que es involvite e ab que microorganismos o toxinas pote esser absorbite es equal al dimensiones de un carta postal. Il es importante considerar que saccos periodontal contine un abundantia de bacterios e toxinas bacterial que pote entrar le systema rapidissimente. Masticar con dentes que es periodontalmente afficite pote pumpar microorganismos e toxinas a in le systema ubi illos es trovate in le circulation sanguinee intra dece minutas post le repasto. In le caso de un patiente con endocarditis bacterial o un morbo vascular o respiratori, etc., le consequentias pote esser multo serie. In plus, intra texitos in un stato de inflammation active, processos chimic occurre que genera materias, como per exemplo histamina o necrosina, que pote haber nocive effectos super altere partes del corpore.

MORBOS IATROGENE

Morbos causate per le tractamento ipse recipe in nostre dies un attention semper crescente. Le advenimento del therapia a cortisona ha resultate in effectos iatrogene que es responsabile pro relentate curationes post-operative. Le potentia curative del patiente post interventiones chirurgic, como per exemplo gingivectomia, pote esser reducite; le tractamento pote retarder se o mesmo resultar in un fiasco complete.

Exemplos de morbos iatrogene in dentisteria es: gingivectomia executate sin indicationes sufficiente; uso de causticos o agentes destructive super le texitos periodontal; le uso excessive de antibioticos resultante in un cambiamento del flora intestinal e oral e assi in deficientias nutritional o infestationes fungal; e le placiamento imperfecte de pontes, matrices, e altere restauratione que non concorda con le requirimentos del occlusion e assi deveni traumatogene.

NON-OCCLUSION

Le plus serie causa de hypofunctionamento es non-occlusion, i.e. un stato in que le dentes non pote junger se in alicunes del positiones que le mandibula pote prender. Nonobstante, morsuras aperte non indica necessarimente dentes non-functionante. Al contrario, in casos de morsura aperte il se tracta frequentemente de occlusiones traumatic resultante del pression de lingua, labios, o genas. Le position del dentes es hic un effecto secundari del existentia e del action de musculos e texitos molle. Illo es etiam cambiate per stresses chimic o mechanic que lo affice in consequentia de alterationes systemic o local.

Casos de non-occulsion pote esser causate per habitudes de mastication e de pression lingual. Frequentemente le diagnose pote esser basate super un examine del reflexo de vomiturition que es normalmente pauco forte o mesmo non-existente in tal patientes. Le manco complete o partial de sensibilitate pharyngee es le causa que induce iste patientes, quando illes ingluti, a pulsar lor lingua in avante a fin de sentir un fortia resistente. Il es iste habitude de pulsar le lingua in avante inter le dentes anterior que pote causar le non-occlusion o un migration del dentes anterior. Patientes de iste categoria deberea esser re-educate a inglutir con le extremitate del lingua contra le rugas del palato. Le correction del position del lingua in le acto del inglutimento permitte al dentes anterior de rejunger se intra un anno, mesmo in patientes de etate avantiate, providite que nulle altere factores interveni. Un altere methodo es instruer le patiente a inglutir con le lingua contra le superficie lingual del gingivas anterio-inferior.

OCCLUSION TRAUMATIC

Le termino hyperfunctionamento es applicabile a omne simple stress del genere causate per un restauration nimis alte, per un cuspide prominente, o per malposition o qualcunque altere habitude que resulta in un excessive e recurrente pression super un o plure dentes. Hyperfunctionamento pote etiam resultar de un supporto insufficiente o de un musculatura masticatori abnormal.

Quando le equilibration occlusional es executate satisfactorimente, uso e functionamento normal deberea sufficer a mantener un bon relation positional del dentes—con al plus de tempore a tempore le possibile necessitate de reducer un prominentia de cuspide o plano.

Le equilibration occlusional de dentaturas artificial es un problema differente de illo presentate per dentes natural.

DYSFUNCTIONAMENTOS DEL ARTICULATION TEMPORO-MANDIBULAR

Problemas del articulation temporo-mandibular es intra le provincia del dentista e es generalmente facile a resolver. Novanta pro cento de iste disordines functional es debite a abnormalitates occlusional. In le diagnose de arthrogryposis, roentgenogrammas non es un base solide; illos causa confusion e es de quasi nulle valor. Illos es un auxilio solmente in determinar le profunditate del fossos e le typo de articulation involvite o in le studio de fracturas, excrescentias, e altere factores non-functional.

CUTANEOUS VIRUS DISEASES*

John M. Shaw, M.D. and Arthur C. Curtis, M.D.†

Cutaneous disease in the area of the face and the mouth represents a distressing condition to the patient. The inability to camouflage facial lesions encourages seeking medical advice early, and the dentist is in a unique position to observe many mucous membrane and cutaneous lesions at the onset or early in their evolution. For this reason the early recognition and treatment of these lesions become of utmost importance to the dentist.

In all fields of medicine the role played by viruses has steadily increased since Pasteur in the 1880's suggested the possible existence of sub-microscopic organisms. Virologists, in identifying and classifying these organisms, have revealed a significantly large group exhibiting a singular predilection for ectodermal tissues . . . skin, mucous membrane, and nerve structures. Certain other characteristics have been observed which serve to differentiate viruses from other forms of microbic life.[1]

These are:

1) Viruses have never demonstrated the ability to grow on inanimate culture media. They are obligate parasites requiring living cells for existence. For this reason the most popular and successful culture media have been the chorioallantoic membrane of chick embryos, the sacrified cornea of the rabbit, or mouse brain.

2) The size of these organisms ranges from ten millimicra to three hundred millimicra.[2] The small virus approaches the proportions of the more complex protein molecule, while the larger are similar to the small bacteria.

3) The dematotropic viruses exhibit a specific host-parasite relationship which is manifest by a constant and predictable clinical course and histopathological change. The development of abnormal epidermal intracellular structures known as "inclusion bodies" is pathognomonic of virus infection in the skin and mucous membrane. This relationship is also seen in the production of antibodies, some of which impart a lasting immunity. Certain viruses elicit the production of antibodies which may protect against closely related viral diseases.

The viral diseases of particular interest to the dentist can be divided into four general groups. The vesicular types include herpes zoster, herpes simplex, herpangina, varicella, variola, vaccinia, milker's nodules, eczema herpeticum, eczema vaccinatum and echthyma contagiosum. The exanthematous type is manifest by rubeola and rubella. The verrucous group includes verruca vulgaris and its sub-groups, condyloma acuminatum and molluscum contagiousum. A fourth group is made up of those viral diseases which do not fall into a clear-cut category and is exemplified by "cat scratch" disease, lymphopathia venereum and apthous fever or "foot and mouth disease."

THE VESICULAR GROUP

A. **Herpes Zoster.** Herpes zoster is an acute inflammatory, vesiculobullous disease characterized by unilateral groups of vesicles on an erythematous base following the distribution of a sensory nerve. It is accompanied by burning pain and hyperesthesias in the involved area. One attack usually imparts a lasting immunity. Herpes zoster was first shown to be an infective disease by Landouzy in 1884, but the viral etiology was established by later investigators.[3]

Following a variable incubation period of nine to twelve days the disease may manifest itself in fever, hyperesthesias, itching and pain in the area which may later show cutaneous changes. These sensations may be confined to this exact area of involvement or may be more

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extensive. Regional lymph glands are often enlarged and tender. The eruption first appears at the terminal cutaneous nerve endings with erythema followed by the development of vesicles within several hours. The individual vesicles may appear in one or several groups, and these groups may eventually coalesce to cover an entire dermatome.[4] The patches of vesicles appear in successive crops and heal by desiccation and crusting. The entire process extends over a five to ten day period, leaving a transient erythema and residual pigmentation. Clinical variations of zoster have led to descriptive terminology based primarily on the location of the lesion. These are: zoster capillitii, zoster ophthalmicus, zoster frontalis, zoster facialis, etc.

Fig. 1—Herpes zoster pectoralis with nerve root distribution.

Zoster pectoralis, or shingles, is the most common, occurring in seventy-six percent of the cases.[5] The extent of zoster pectoralis may vary from one skin segment supplied by one nerve to the entire hemithorax. Trigeminal zoster affecting the gasserian ganglion may produce vesicles along the forehead, side of the nose, face, and the cornea. Zoster ophthalmicus is a serious disorder with inflammatory changes in the eye producing keratitis, scleritis, and iridocyclitis with marked scarring.

Zoster oticus produces painful vesicles on the tonsillar fauces, uvula, or tongue with resultant pre-auricular lymphadenopathy. Laryngeal paralyses are a rare complication. Geniculate ganglionitis produces the Ramsey-Hunt Syndrome composed of paralysis of the facial nerve, involvement of the auditory nerve with deafness, vertigo, nausea, vomiting, and the loss of taste from the anterior two-thirds of the tongue.

The clinical forms of the vesicle structure have given rise to another classification which includes zoster hemorragicus in which the vesicles are filled with blood and zoster gangrenosus in which necrosis of the vesicle is the most prominent feature. Zoster aborticus is manifest only by the localized pain and hyperesthesias.

Fig. 2—Herpes zoster frontalis with sharp demarcation at the midline.

Two theories of pathogenesis have been proposed; (a) the infection starts centrally, attacking the ganglion and extending down the nerve trunk until it reaches the skin, and (b) the virus gains entrance through the skin and ascends the nerve to reach the ganglion. This latter theory is the more popular and can best explain the production of peripheral nerve paralyses.

Herpes zoster is divided into the idiopathic type, a primary infection of the ganglion with a neurotropic virus, and the secondary type following infections such as septicemias, pyemias, cerebro-spinal meningitis, malaria and syphilis. It has been reported to follow various types of

trauma including manipulation of the spine, extraction of teeth, etc. A bilateral herpes zoster has been reported following acute arsenical poisoning.[6] Recurrent herpes zoster, especially in the older age groups, is probably due to local disease in the vicinity of the nerve root. The most common causes of this irritation are the lymphoblastomata of the Hodgkins or leukemic types with encroachment by tumor tissue.

A rather frequent complication of zoster is paralysis. This may be due to voluntary splinting because of pain or due to extension of the inflammatory process into the motor nerves. Paralysis is more common with zoster of the

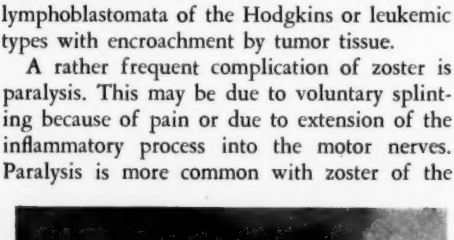

Fig. 3—Herpes Simplex in the most common perioral site.

upper parts of the body and decreases in incidence on the trunk and lower extremeties. Facial paralysis with cephalic zoster may run as high as fifty percent.[7] This paralysis is of the peripheral or Bell's type. Ocular paresis occurs in approximately seven percent of the zoster ophthalmicus cases.[8]

Treatment of herpes zoster is usually symptomatic, with salicylates for relief of pain and an antipruritic drying lotion applied topically. For intense pain opiates may be required. Aureomycin in large doses has been reported to shorten the healing period. This effect may be due primarily to the control of the secondary infection. Intramuscular injections of protamide have been helpful in the relief of pain and the decrease in healing time. Occasionally infiltration of the affected ganglion with procaine is required to control the pain. Roentgenotherapy over the paravertebral region is of value.

There is a definite relationship between herpes zoster and varicella which will be discussed in conjunction with the latter disease.

B. **Herpes Simplex.** Herpes simplex is an inflammatory vesicular eruption of the skin and mucous membranes which is caused by the "herpes virus." The infectiousness of this disease was first demonstrated by Vidal in 1873. He proved that fluid from an inflammatory vesicle of herpes simplex could produce a typical lesion when injected into the skin of a normal individual. It remained for Lowenstein and Gruter in 1919 to establish the viral etiology.[9] Other workers have shown that the herpes virus is responsible not only for the very common "fever blister," but can also be isolated from dendritic ulcers of the eye, stomatitis of children, and possibly from cases of encephalitis.

Clinically herpes simplex appears as an eruption composed of closely grouped vesicles on an erythematous base. The usual location is on the face, peri-orally. It occurs less frequently on the genitalia, and rarely on other portions of the body. The lesions of herpes simplex are associated with sensations of burning and pain and hyperesthesias are common. Lymph nodes draining the area are frequently enlarged and tender. There may be one group of vesicles or several, with coalescence of these groups producing bizarre configurations. The individual vesicle is small, one to five millimeters, and at first is filled with clear serum which later takes on a milky appearance. The course of the disease is usually from four to seven days with the vesicles healing by crusting and drying. One episode does not produce a lasting immunity and recurrences are common. Precipitating antibodies can be demonstrated experimentally after an infection.

It is felt that herpes simplex represents an infection brought about by the lowering of tissue resistance to the herpes virus which in all probability is present as a saprophyte in the cells. This lowering of resistance may be through local irritation, manipulation of tissues, exposure to sunlight and drafts of cold air. It has been associated with high fevers from any systemic illness

and particularly cerebro-spinal meningitis, lobal pneumonia, and malaria. Other more obscure cases have been recorded following the eating of cheese, with gastro-intestinal upsets, and at the time of menses.

Herpes simplex of the mucous membranes of the mouth is most frequently seen in children. It usually involves the oral pharynx, but can occur in the naso-pharynx, larynx, and esophagus. The lesions appear as superficial erosions and may be accompanied by mild to moderate constitutional symptoms.

Treatment of the mild case generally requires only an astringent lotion or paint containing spirits of camphor with phenol and menthol. Roentgenotherapy has given excellent results in the more acute cases. In chronically recurrent cases the use of increasing intradermal injections of cow-pox vaccine has been of great value. The high titer immunity to cow-pox increases the immune response to herpes simplex.

A not uncommon condition caused by the simplex virus which may come to the attention of the dentist is herpetic keratitis, often the forerunner of dendritic ulcer of the cornea.[10] Early, it resembles herpes simplex labialis with grouped vesicles scattered around the cornea. These may rupture with the formation of fissures. No lasting immunity is produced and recurrences are common either unilateral or bilateral. The patient often fails to consult his physician early in the course of the disease and seeks medical advice only when the characteristic and pathognomonic ulcers are present. At this late stage no vesicles are observed, but instead an epithelial defect can be seen with fluorescein, presenting the branched, linear picture of a dendrite. Associated photophobia, lacrimation and pain may persist for several months. Dendritic ulcers do not perforate.

C. **Kaposi's Varicelliform Eruption.** Kaposi, in 1895, described a patient with atopic eczema on whom was superimposed an acute vesicular eruption. This was characterized by the appearance of umbilicated vesicles which healed by crust formation and desication. It has since been found to occur with other dermatoses such as seborrheic dermatitis, impetigo, and similar epidermal infections. The eruption frequently spreads to involve normal skin, mucous membrane, and conjunctiva. Pyrexia, malaise and regional adenitis accompany the cutaneous manifestations. The lesions were observed to appear in successive crops and, in the mild cases, to clear completely in seven to ten days with no residual other than the underlying dermatitis. Recurrences are seen in patients with chronic herpes labialis. Kaposi's Varicelliform Eruption or eczema herpeticum is four times as prevalent in children with the mortality rate as high as thirty-nine percent in infants and decreasing to nine percent in adults."[11]

Fig. 4—Kaposi's Varicelliform eruption with obvious vesicular and umbilicated lesions in groups.

The herpes simplex etiology has been clearly established with the organisms from the vesicle fluid producing the typical kerato-conjunctivitis in rabbits.[12] The serum from convalescent patients has been found to contain a high titer of herpes simplx antibodies.

Treatment is symptomatic in the acute stage and the regimen for therapy of the underlying dermatitis must be instituted when clinically feasible.

D. **Herpangina.** A highly contagious disease entity which is characterized by fever and either vesicular or ulcerated throat lesions was first described by Zahorsky in 1920.[14] Herpangina appears in mild epidemic proportions each summer in some areas of the United States. It is chiefly confined to children from one to eight years, but does effect older age groups. The disease is ushered in by sudden onset of a rapidly rising fever in an apparently normal child. The fever lasts from one to four days. On the fourth to the sixth day typical lesions appear on the pharynx, chiefly on the anterior pillar of the tonsillar fauces but occasionally seen on the soft palate, uvula and tonsil. These are papulo-vesicular in nature, measuring one to two milimeters in diameter with a surrounding erythematous halo. Parrott,[15] *et al,* in describing a recent outbreak in Washington, D. C. found the lesions to be discrete and numbering two to fourteen lesions per patient, with an average of five. During the two or three days after the initial appearance the vesicles enlarge, rupture, and present an ulcerated appearance with a grayish-yellow base. The most common complaint of patients suffering with this disease is sore throat, manifested in infants and young children as dysphagia and anorexia. Vomiting, abdominal discomfort, general malaise, aches and muscle pains are observed. None of the reported cases had any signs of meningeal irritation. There is almost complete absence of other upper respiratory symptoms such as cough, rhinitis or otitis media. Antibiotics have no influence on the seven to eight day course of this benign disease. Treatment is purely symptomatic.

Parrott obtained detailed laboratory studies on his twenty-two cases and isolated four distinct strains of the Group A Coxsackie type virus.

E. **Varicella:** Varicella, or chicken-pox, is a highly contagious childhood disease with an incubation period of fourteen to seventeen days. There is an abrupt onset of the eruption rapidly passing through the macular and papular stages to form vesicles. These are superficially situated and discrete. In two or three days they become lactescent with healing beginning on the fourth or fifth day followed by drying and crusting. Lesions of various ages can be observed in any one area. The site of predilection is the trunk, although the face and oral mucous membranes are frequently involved. Skin trauma tends to localize the eruption, for it has been observed to occur more profusely under adhesive tape, in areas of friction from clothing, or on the sites of pre-existing acne vulgaris.

There is a close relationship between varicella and herpes zoster[16], exemplified by many reported instances of varicella following exposure to herpes zoster. The converse is also true. Kundratitz was able to produce varicella in children by the injection of zoster vesicle fluid. He could not produce varicella in children who had already had the disease. Children inoculated with zoster fluid were found to be immune to subsequent injections of varicella fluid. Some investigators feel that the virus of varicella and zoster is one and the same, in as much as varicella infections in children have led to zoser infections in the adults living in the same home.

The treatment of varicella is symptomatic.

F. **Variola.** Variola, or small-pox, is a rarity because of the immunity afforded by routine prophylactic vaccination. Occasional sporadic epidemics have occured which are quickly controlled by compulsory vaccination. Variola is the most serious disease of viral etiology. The incubation period is twelve days, followed by sudden onset of high fever, malais and generalized aches. On the third day erythematous macules appear which develop into vesicles in twenty-four hours, umbilicate and become pustular within forty-eight hours. All lesions show a striking uniformity at any one time and they heal by crusting and desiccation after the eighth to tenth day.

The distribution of the pustules of variola is diagnostic. They are located centrifugally, on the face, forearms, wrists, palms and soles. A virulent form of small-pox appears as a purpuric rash on the third or fourth day after onset. The hemorrhages into the skin are a grave prognostic sign for the mortality is almost one

hundred percent.[17] This is termed variola purpurica.

Superficial erosions may appear in the mouth and upon other mucous membranes following rupture of the vesicles. The clinically significant features of variola are the twelve day incubation period, the centrifugal distribution of the lesions, and the uniformity of the lesions . . . all exhibiting the same stage of development as opposed to varicella where successive crops are observed.

Fig. 5—Variola—centrifugal distribution on face. Monomorphism of lesions evident.

G. **Vaccinia.** Vaccinia, or cow-pox, is a mild vesiculo-bullous disease of cattle and may be accidentally transferred to man. The etiological organism is closely related to small-pox antigenically and is the basis for the prophylactic vaccination introduced by Jenner in 1796. The present day vaccinium is prepared by removing the contents of mature vesicles from infected calves and preserving it in glycerine. In man the typical reaction at the site of the vaccination is well known.

Complications of vaccination, though rare, do occur and should be recognized. The most common complication is caused by secondary infection at the vaccination site. A very rare complication is post-vaccinial encephalitis, having a high mortality, appearing ten to fourteen days after vaccination. The exact etiology of this encephalitis has not been clearly established. These complications are not contra-indication to vaccination.

H. **Eczema Vaccinatum.** Eczema vaccinatum is a generalized eruption of vaccinia superimposed on an infantile or atopic eczema. The virus gains entrance into the skin through auto-inoculation from a vaccination or by contact with a recently vaccinated individual. The

Fig. 6—Vaccinia with spread to chest wall from site of vaccination.

disease appears approximately seven days after exposure and is manifest by the development of vesiculo-pustules over the sites of eczema associated with fever and toxic symptoms.

Treatment of eczema vaccinatum is symptomatic but should include one of the antibiotics to combat secondary infection. Aureomycin is the drug of choice.

I. **Milker's Nodules.** A closely related disease to vaccinia etiologically is milker's nodules. This condition was first described by German and Russian clinicians in the early 1900's. However, as early as 1799 Jenner had

differentiated between two similar infections of cattle, "true cow-pox" in which man might contract vaccinia, and "false cow-pox" from which milker's nodules may result. Von Pirquet in 1915 described the virus of milker's nodules as a separate species and named it "para vaccinia." The virus is generally recognized as being an attenuated form of the cow-pox vaccine or closely related to it. Vaccination does not protect against the development of milker's nodules.[18]

Clinically the disease appears seven to ten days after exposure to an infected cow. A reddish papule is the earliest manifestation followed by a rapid development of a bluish-red,

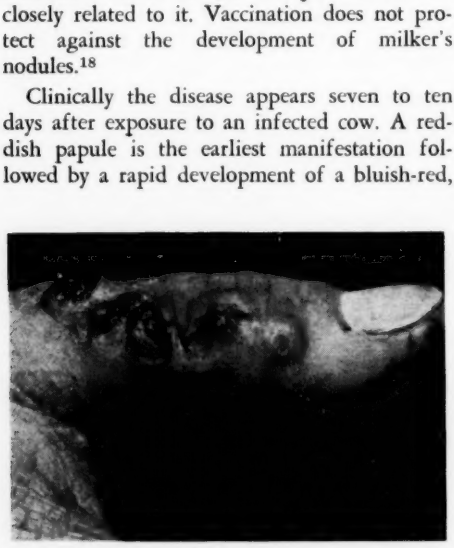

Fig. 7—Milker's nodules in common location in medial side of thumb.

umbilicated five to ten millimeter nodule. Regional adenitis has been reported, and ulceration and crust formation may develop. The nodules may enlarge to two centimeters in diameter and the disease may persist for several months before spontaneously subsiding. The sites of predilection are the backs of the hands, the arms and the face. Secondary eruptions occuring one to two weeks after the appearance of the nodules have been described as erythema multiforme-like lesions. These disappear in ten to fourteen days in contrast to the slowly healing nodules. Sonck reported four cases with erythematous vesiculo-papular eruptions largely confined to the extensor surfaces of the arms, legs, and neck. These all subsided spontaneously within the fourteen day period.

J. **Ecthyma Contagiosum.** Ecthyma contagiosum is a vesicular virus disease of moderate prevalence in the sheep raising areas.[19] Following an incubation period of three to seven days after exposure to infected sheep or goats, one or more inflammatory papulo-vesicles appear. These develop umbilication, become pustular and closely resemble a typical vaccination. Regional adenitis is common. The sites of predilection are the face, hands, and lower arms. Constitutional symptoms are mild or lacking and the lesions spontaneously crust and dry, healing with a scar in a few weeks. One attack produces a lasting immunity.

Ecthyma contagiosum must be kept in mind in vesicular eruptions of the face and hands of those who handle sheep. The etiology can be established by a cross immunity reaction with infected sheep and by the failure of the virus to grow on the chorio-allantoic membrane of the chick embryo.

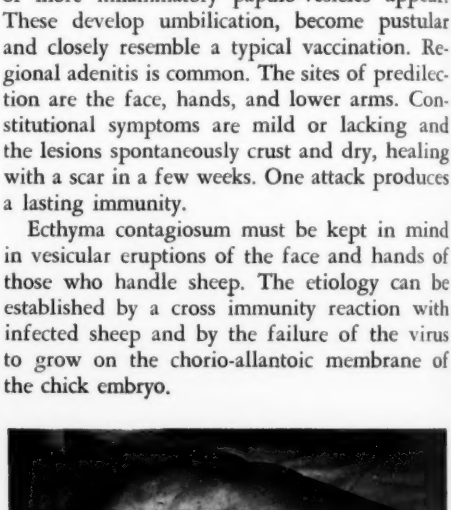

Fig. 8—Typical Measles of childhood.

II. The Exanthem Group

A. **Rubeola.** Rubeola or measles is a common childhood exanthem of high infectivity which may come to the attention of the physician because of pyrexia, pharyngitis, conjunctivitis and photophobia. The incubation period is ten to twelve days with symptoms appearing suddenly. The most characteristic diagnostic point is found on the buccal mucosa and was first described by Koplik. These lesions appear from one to three days prior to the outbreak of the eruption in ninety-five percent of the cases.[20]

They are bright red spots with a bluish-white center and are located most commonly along the mucous membrane opposite the molars. The number of spots may vary greatly, at times covering the entire mucosa.

The cutaneous rash appears on the forehead and behind the ears, spreading over the face, neck, trunk and extremeties. It is an erythematous maculo-papular eruption, often becoming confluent and blotchy. The erythema disappears on pressure. It reaches full development in forty-eight hours and then gradually subsides.

Measles is a benign disease and runs a seven to ten day course. Treatment is symptomatic with rest in bed, a darkened room, and antipyretics. Prior to the antibiotic era the disease had two serious complications with bronchopenumonia accounting for many of the deaths due to measles. A second complication was otitis media, usually bilateral. Encephalomyelitis and appendicitis are rarely observed.

B. **Rubella.** Rubella or German measles is another common childhood exanthem with a mild course and excellent prognosis. It was thought to be an insignificant infection until 1941 when the serious effects of rubella on the fetus in utero were demonstrated.

The rash appears sixteen to twenty days after exposure to the disease, starting on the face and head and later extending onto the neck and trunk. In twenty-four hours the morbilliform erythema has reached its height. Koplik spots are absent. A characteristic post-auricular, occipital and cervical tender adenitis develops with the rash and persists for two or three weeks. The course is benign in children and complications are rare.

The disease in pregnant women is of the utmost importance. During the first trimester rubella infections produce congential malformations in ninety percent of the cases.[21] Therapeutic abortions have been recommended in this circumstance. The health of the mother is not affected.

Treatment is symptomatic and occasionally the disease is so mild as to make bed rest unnecessary.

III. THE VERRUCOUS GROUP

A. **Verruca Vulgaris.** There are four clinical types of verrucae caused by similar or identical viral organisms. They are: Verruca vulgaris, verruca plana, verruca plantaris and condyloma acuminatum.

Verruca vulgaris, or warts, is a discrete, dry, raised papullary lesion which may be flat-topped or exhibit a filliform appearance with a pedunculated base. Although they may occur anywhere on the body, the fingers and hands are the sites of predilection. Verrucae may be single or multiple and appear to be autoinoculable. They persist for indefinte lengths of time and disappear spontaneously. There are no subjective symptoms.

Verruca plana or juvenile flat wart is a two to five millimeter flat, smooth, but slightly elevated, discrete lesion which occurs singly or in groups on the face, neck and hands. The papule may at times have a pink color, btu more often is of the same color as normal skin. They are usually seen in young adults and children.

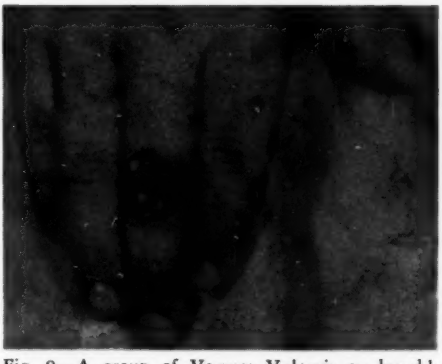

Fig. 9—A group of Verruca Vulgaris on knuckle of middle finger with satellite lesions on index finger.

Verruca plantaris is a tender, ingrowing wart located on the sole of the foot. It is most often seen in the center of a callosity on the ball of the foot, invaginating into the dermis because of the thick hyperkeratotic plaque.

Condyloma acuminatum is a verruca of mucous membrane and assumes a filliform vegeative or cauliflower configuration from the con-

stant moisture. They may be single and discrete or coalesce to form extensive foul-smelling growths. The sites of predilection are the coronal sulcus and prepuce in the male, and in the genital region of the female. Verrucae acuminata grow rapidly during pregnancy, and are stimulated by irritating discharges associated with infection of the genitalia. Should the growth attain a large size, pressure may flatten the surface producing a lesion closely resembling condylomata lata of secondary syphilis.

The virus can be isolated from wart tissue and human volunteers have been infected by the injection of filtered wart extract. Warts exhibit a true Koebner phenomenon in which several verrucae appear along the traumatized skin of a scratch mark.

Fig. 10—Verruca Plantaris on medial side of right heel.

The treatment of verruca vulgaris is the application of strong keratolytics; e.g.: trichloroacetic acid, lithium bromide, podophyllin, salicylic acid in high concentrations, or by electrodesiccation. Verruca plana rarely require treatment although light desiccation with the electric needle is effective. Plantar warts are the most resistant to treatment and require removal of the hyperkeratotic callosity followed by the application of strong keratolytics. A large single dose of superficial x-ray confined to the exact area of the wart is generally effective. At times the plantar wart enlarges to form the so-called mosaic wart which may respond to oral bismuth or protoiodide of mercury. Condyloma acuminatum is treated by hygienic measures followed by the local application of twenty-five percent podophyllin in compound tincture of benzoin. Occasionally electrocautery must be used.

B. **Molluscum Contagiosum.** Molluscum is characterized by the slow development of discrete, rounded, pea-sized, waxy, umbilicated papules. The lesions are most common on the face, trunk, arms, buttocks and external genitalia, and rarely on the mucous membranes of the mouth.

The course of the disease is insidious with healing in a matter of months. The lesions are contagious and autoinoculable. The healing can

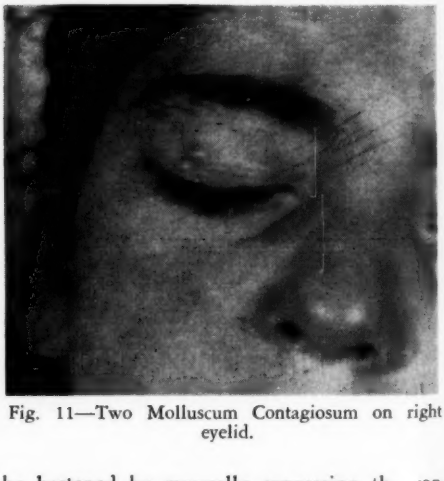

Fig. 11—Two Molluscum Contagiosum on right eyelid.

be hastened by manually expressing the contents of the papule through a shallow incision over the umbilication.

IV. The Unclassified Group

A. **Lymphopathia Venereum.** Lymphopathia venereum is a virus produced veneral disease. The initial lesion appears two to five days

after exposure but may be unobserved by both patient and physician. The lesion is a vesicle which rapidly ruptures leaving a small, shallow, non-indurated ulcer. This heals in a day or two without a scar. The primary lesion is usually seen on the prepuce and glans of the penis or on the labia, vaginal wall and cervix.

Seven to fourteen days after the initial lesion regional adenitis develops.[22] This may take two distinct forms. In the male the inguinal glands become painful, then gradually enlarge. At first discrete and moveable, in a matter of days they form a single, large, purple-red, inflammatory mass fixed to the skin and underlying tissue. Characteristically Poupart's ligament cuts an anatomic groove through this unilateral mass. About one half the cases break down and suppurate with draining sinus tracts. The lymph drainage in the female carries the disease to the pelvic lymph glands with the development of a chronic inflammatory process producing a variety of complications. These may range from elephantiasis of the genitalia to rectal stricture and obstruction or recto-vaginal and vagino-vesical fistulae. Primary vesicular lesions of the tongue have been described with typical cervical adenitis. Constitutional symptoms of chills, fever, malaise, muscle aches and pains, anorexia and prostration often accompany the chronic adenitis. The untreated course is characterized by chronicity and slow progression. The mortality is very low.

Lymphopathia venereum produces an antibody response in the infected individual and a diagnostic skin test (Frei) has been developed on this basis. A small amount of inactivated virus material is injected intradermally with the development of erythema and induration in forty-eight hours. This test becomes positive one to four weeks after the appearance of the adenitis. It remains positive indefinitely regardless of treatment.

B. **Cat Scratch Disease.** Mal de Griffes du Chat was recognized simultaneously by American and French investigators in 1947. The disease was later determined to be of viral etiology, and the organism shown to be closely related to lymphopathia venereum. Geographically the distribution of "cat scratch disease" is world-wide. Although the earliest reports associated the disease with the scratch of a cat, subsequent studies have indicated other modes of transmission.

The virus enters the body through a break in the skin following a catch scratch, thorn prick or other minor trauma. Within a few days a non-specific primary lesions appears in approximately fifty percent of the cases. This is described as an erythematous papule or nodule capped by a vesicle or pustule. Occasionally this furuncle-like lesion appears for the first time with the development of the adenitis.

The typical adenitis of "cat scratch disease" begins four days to a month or longer following the inoculating injury. Bilateral cervical, submaxillary and submental adenitis develops in over half the cases with unilateral axillary involvement in the remainder. The nodes enlarge rapidly to a size of five or six centimeters and may remain movable and non-tender, hot, fixed to the skin, and suppurate with one or several draining sinuses.[24] The course of the disease may last from weeks to months depending on the severity. The sinuses heal spontaneously without a scar. The constitutional symptoms are few or lacking completely. A slight rise in temperature associated with headache is frequently seen at the onset of the adenitis. Transient forty-eight hour eruptions of the erythema multiforme type are reported.

Cat scratch disease must be differentiated from tuleremia, Hodgkin's disease, tuberculous adenitis, and other tumors. A specific intradermal test has been developed on the same principle as the lymphopathia venereum Frei test. Material taken from a suppurating node is inactiviated and injected with erythema and induration developing in forty-eight hours. The skin test becomes positive after the adenitis appears, remaining positive for at least two to four years.

No antibiotic therapy has been found to shorten the course of this benign disease.

C. **Foot and Mouth Disease.** Foot and mouth disease is a highly contagious virus infection of cattle, sheep, goats and pigs. It has

received notoriety of late because of the prevalence in Mexico, entire herds having been annihilated in an effort to control the disease. The United States Border Patrol is working constantly to prevent Mexican Cattle from crossing onto our ranges. In this country the disease is uncommon in man. It is contracted through the ingestion of milk from infected animals, by handling virus laden food products, and by contacting infected animals directly.

The disease has an incubation period from two to eighteen days followed by sudden onset of malaise, high fever and headache. The mucous membranes of the mouth may feel dry and hot, although salivation may be copious. These symptoms subside in twenty-four to forty-eight hours at which time vesicles appear on the lips, gums, tongue and pharynx.[25] The formation of these lesions produces concomitant swelling of the lips and tongue with moderate pain. The vesicles rupture to form ulcers. Fetor oris may be pronounced. Vesicles have been described on the finger tips, the interdigital webs and on the arms and legs. The conjunctival may be involved.

Foot and mouth disease in the human clears spontaneously and treatment is symptomatic.

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BIBLIOGRAPHY

1. van Rooyen, Clennel Evelyn and Rhodes, Andrew James: *Virus Disease of Man;* 2nd Ed. New York, Thomas Nelson & Sons, 1948, p. 120.
2. Ibid, p. 14.
3. Kundratitz, K.: Transmission of herpes zoster to man; its relation to chicken pox, Monatschr, F. Kinderk, *29*:516-523, Jan.-Feb. 1925.
4. van Rooyen, Clennel Evelyn and Rhodes, Andrew James: *Virus Diseases of Man;* 2nd Ed. New York, Thomas Nelson & Sons, 1948, pp. 155-158.
5. Ormsby, Oliver S. and Montgomery, Hamilton: *Diseases of the Skin;* 7th Ed. Philadelphia, Lea and Febiger, 1948, p. 431.
6. Jacob, F. M.: Bilateral herpes zoster following acute arsensic poisoning. Arch. Dermat. & Syph. *24*: 280-282, Aug. 1931.
7. Rebattu, J.: The manifestations of herpes zoster in otolaryngology translated in Arch. Neuro & Psych. *31*: 1101, 1927, 1934.
8. Hewlett, A. W.: The motor complications of herpes zoster, Calif. State. J. M. *4*:119-121, 1906.
9. Loewenstein, A.: The underlying etiology of herpes febrilis, Munch Med. Wchnschr. *66*:769-770, 1919.
10. Adler, Francis Heed.: *Gifford's Textbook of Ophthalmology;* 5th Ed. Philadelphia, W. B. Sanders Co., 1953, pp. 225-226.
11. Dodd, K., Buddingh, J., Johnston, L.: Herpetic stomatitis; an exanthem. Am. J. Dis. Child. *58*: 907, 1939.
12. Doerr, R.: Discussion of an article. Klin. Mbl. Augenheilk, *15*:104, 1920.
13. Andrewes, C. H. and Carmichael, E. A.: Note on presence of antibodies to herpes virus in post encephalitic and other human sera, Lancet, *1*:857-858, April 19, 1930.
14. Zahorsky, J.: Herpetic sore throat. Southern M. J. *13*:871, Dec. 1920.
15. Parrott, R. H., Ross, S., Burke, F. G., Rice, E. C.: Herpangina: clinical studies of a specific infectious disease. N. Eng. J. M. *245*:8, pp. 275-280, Aug. 23, 1951.
16. van Rooyen, Clennel Evelyn and Rhodes, Andrew James: *Virus Diseases of Man;* 2nd Ed. New York, Thomas Nelson & Sons, 1948, p. 163.
17. Councilman, W. T., McGrath, G. B., Brinkerhoff, W. R.: A preliminary communication on the etiology of variola. J. Med. Res. *9*:372, 1903.
18. Sonck, C. E.: Milker's nodules with allergic secondary eruption. Acta. Allergologica. *4*:241, 1951.
19. Lloyd, G. M., MacDonald, A. and Glover, R. E.: Human infection with virus of contagious pustular dermatitis. Lancet. *1*:720-721, March 31, 1951.
20. van Rooyen, Clennel Evelyn and Rhodes, Andrew James: *Virus Diseases of Man;* 2nd Ed. New York, Thomas Nelson & Sons, 1948, p. 163.
21. Rivers, Thomas R.: *Viral and Rickettsial Infections of Man;* 1st Ed. Philadelphia. J. B. Lippincott Co., 1948, p. 377.
22. Ibid, pp. 347-348.
23. Editorial J.A.M.A. *148*:9, p. 746, March 1. 1952.
24. Daniels, W. B., MacMurray, F. G.: Cat Scratch Disease; non-bacterial regional lymhadenitis. Arch. Int. Me. *88*:736, Dec. 1951.
25. van Rooyen, Clennel Evelyn and Rhodes, Andrew James: *Virus Diseases of Man;* 2nd Ed. New York, Thomas Nelson & Sons, 1948, p. 203.

MORBOS CUTANEE A VIROS

Per Dr. med. John M. Shaw e Dr. med. Arthur C. Curtis

SUMMARIO IN INTERLINGUA

Morbos cutanee in le areas facial e buccal representa pro le patiente un condition depressive. Le impossibilitate de celar lesiones stimula le patiente a bon tempore a cercar consilios medical, e le dentista se trova in un excellente position de poter observar lesiones del cute e del membranas mucose al initio o al minus in le prime phases de lor evolution. Pro iste ration le prompte recognition e le correcte tractamento de tal lesiones es del plus alte importantia pro le dentista.

In omne campos medical le rolo del viros es devenite de plus in plus importante depost que Pasteur in le decade de 1880 concipeva le idea del possibile existentia de organismos sub-micro-

scopic. In identificar e classificar iste organismos, le virologos ha trovate un satis grande gruppo que exhibi un surprendente predilection pro texitos ectodermal: le cute, le membranas mucose, e le structura nerval.

Ha essite observate certe characteristicas que pote servir a differentiar le viros ab altere formas microbiotic. Istos es: (1) Viros ha nunquam demonstrate le capacitate a crescer in medios cultural inanimate. Illos es parasitos obligate e require cellulas vive pro lor existentia. (2) Le dimensiones de iste organismos varia inter dece e tres centos millimicros. Le plus parve viros ha dimensiones proxime al complexe moleculas de proteina, durante que le plus grande es simile a parve bacterios. (3) Le viros dermatotropic exhibi un specific relation de hospite e parasito le qual es manifeste in un curso clinic e un disveloppamento histopathologic que es constante e predicibile. Le disveloppamento del si-appellate "corpores de inclusion," i.e. de structuras anormal intra le cellulas del epiderma, es un symptoma pathognomonic del infectiones viral in le cute e le membranas mucose.

Le morbos viral que ha un interesse special pro le dentista pote esser dividite in quatro gruppos general. Le prime gruppo es vesicular e include *herpes zoster* e *herpes simplex, herpangina, varicella, variola, vaccinia, paravaccinia, eczema herpeticum, eczema vaccinatum,* e *ecthyma contagiosum.* Le secunde gruppo es exanthematose e se manifesta in *rubeola* e *rubella.* Le tertie gruppo es un gruppo de morbos verrucose e include *verruca vulgaris* insimul con su subvarietates e *molluscum contagiosum.* Le ultime gruppo consiste de morbos viral que non forma un clar categoria. Exemplos es *lymphopathia venereum,* le febre aphthose, e le morbo del grattamento de catto.

WHAT TO DO ABOUT AGE AND AGING*

By C. WARD CRAMPTON, M.D.†

It is a great privilege to address the American Academy of Dental Medicine composed, as it is, of able, farsighted and forwardlooking members of the dental profession. I regard dentistry as a department of medical practice. Indeed, it is one of its most important specialties. Its service to the treatment of disease is increasing rapidly as it is becoming more and more recognized that the mouth and especially teeth are a part of the body upon which the welfare of every other part is greatly dependent. It is increasingly recognized that the oral cavity is a rich source of diagnostic aids; that not only body diseases but body conditions and physiological efficiencies and defects will show themselves in the oral region. No medical examination is complete and no program of medical treatment is adequate without the most careful examination and fullest consideration of the oral cavity. Again, to a great extent the fate of every organ and the whole man is dependent upon the health, efficiency and vitality of the teeth and the various surfaces of the adjoining areas. I look forward to the time when no man shall ever go to a physician for treatment without a report on his teeth and oral cavity made by a competent dentist. And on the other hand I would be glad to see the time when every person coming to a dentist shall bring with him a full report of a thorough health, physical and medical examination and a record of his medical condition over the years. These are essential factors in a topic that I am to present to you. What can be done in the postponement and prevention of age? What can be done to treat effectively the neglected illnesses of the medically aged and aging? And last, what can be done in the way of rehabilitation and de-aging of those already damaged?

The essence of the whole situation is the geriatric examination. This is not confined to the aged. It is a medical examination made by a physician.

The average man of 50 or 60 is commonly from five to ten years older than he need be. How? As a man ages, his body becomes a documentary record of his past years. He shows accumulated damages, defects, tissue poisoning, stagnation and starvation with half-cured illnesses and infections. These are the results, not of time, but of the hazards that occur from accident, illness, strain, ignorance or neglect in the passage of time. Our enemy is not age, it is damage.

At any age, 40, 60 or 80, these accumulated burdens, defects and deterioration can, by thorough examination, in large part, be discovered and identified. This examination takes much time, skill, experience and devotion, for it must be an intensive study of body and mind, the whole man, and the whole life, past and present.

The evils thus disclosed and thoroughly analyzed may often be partly or wholly removed or neutralized. The man is correspondingly unburdened and refreshed. At the same time unutilized sources of vitality and power may be disclosed and employed to great advantage. Although this may look like rejuvenation, it is not, for nothing will restore youth and no such promise or hope should be permitted. But it does take away removable burdens incidental to aging and adds all possible benefits. We may call this rehabilitation or we may coin a term "de-aging."

This is a challenge to all medical art and science. Failures and partial successes, mixed with substantial improvement in the lives of our patients are to be expected. Sometimes we

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† Chairman of the Sub-Committee on Geriatrics for the Medical Society of the County of New York; Consultant in Geriatrics, Internal Medicine, and Medical Rehabilitation.

are rewarded with a transformation of an invalid into a person living a vigorous happy life. We can cite many examples:

A woman, bedridden for years with cardiac disease, unable even to lie down flat in bed, gradually gets up, out, and around,—and in a year takes an airplane back to Italy to resume active management of her estates and her grandchildren.

A man of 65, retired, disabled and homebound, gets out, back to active life, occupation and sport. He reports to his medical counsellor bursting with the triumphant news, "Doctor, for the first time in 20 years, I broke 80 again!"

A man of 72, who for over a decade had wisely obtained the advantages of preventive geriatrics, had "retired" at 65 to an active life as a consultant. He applied for the position of president of a new university to be organized overseas. He was examined by a medical and a lay board. He won the appointment over a dozen men chronologically younger.

Dr. Trevor Howell of Chelsea, England, reports on 56 men who were constantly in bed at St. John's Hospital. In three weeks of intensive rehabilitation work, 49 were able to get up and about. In two months, 36 were discharged and left the hospital. Similar results have been obtained in this country.

These are examples of what is being done. It works some of the time for some people to some degree. Sometimes it does not. But it is always worthwhile to make the effort. Let us examine the matter.

GERIATRIC EXAMINATION

The basic essential of de-aging as well as age prevention is the geriatric examination. This is a medical examination made by a physician. It has a special purpose. It has to do with age and aging. It can be given appropriately at any age during life, from minus nine months to 90 years and although popular and medical interest are most readily attracted to the time area around 40 or 50, when damages and deteriorations accumulate and begin to obtrude themselves with increasing insistence.

It will take fifty years to get the exact figures, but I believe that if 100,000 American men at the age of 50 were to get a good geriatric examination, follow it up with good geriatric anti-aging service, they would live, on the average, 10 to 20 years longer than their heedless or less fortunate compeers and have twice the joy of life with half the pain.

We seem to have done it with white rats. If our yearly increasing records mean what they seem to mean to those who have had their examinations and are getting this service, we may be on our way to doing it with men. When the weak become strong, when fatigue and frustration give way to purposeful activity, when stagnant body functions take on renewed vigor, then the anti-aging, de-aging services of geriatrics merit increased medical attention. The awakened public demand must meet with skilled and experienced service. Accordingly, let us examine the simple essentials and distinctive features of the geriatric examination and geriatric service.

Inasmuch as the geriatric examination concerns itself with everything that has to do with aging and its prevention, it can be done on the sick or the well and, as we have said, at any age. It is the health examination with an added purpose, longevity de luxe.

The examination includes the whole man, his whole life, past, present, and to come. It is therefore holistic. It is far more than the routine disease examination, which it includes.

If a busy physician examines a man looking only for disease, finds none, and reports, "There is nothing wrong," he has done a service. Yet if he says there is nothing that medicine can do for him he is in error. In the 1932 edition of "Preventive Medicine," published by the Academy of Medicine, we state, "We have studied diseases but not lives. We need life-time diagnosis. We need life-time management. We shall then get life-time results."

There are two different forms of the geriatric examination, corresponding to two different purposes: the first is for research; the second has a clinical and hygienic purpose.

RESEARCH EXAMINATION

The research examination may be holistic or confined to one organ, one food, one chemical

substance, or one procedure. It seeks information and makes records. It is not its purpose to give service to the examinee, although its findings may be so applied. A typical form of geriatric research examination is being developed in which it is proposed to examine 100,000 men at the age of 50, and repeat the examination year after year for 20, 30, 40 years, or a lifetime. It is longitudinal. When this is done we shall have data on the causes, beginnings, and progress of chronic illness which we can get in no other way. We shall also know much more about aging in all of its ways and forms than we do now. At present single item "vertical" research is the most popular intensive form of effort and is making excellent progress. The holistic form of research of coordination, i.e., the synthesis of specialized data collected from different parts of life and living, is in need of development. Much more can be said on the research geriatric examination, but we shall now turn to a very different matter—the clinical and hygienic examination, for personal service.

In one sense a clinical situation is never a research situation. In a broader sense, every clinical situation is a research challenge, far more difficult and complex than ordinary intensive unipolar research with only one unknown quantity in the equation. The clinical examination, with its life management purpose, has numberless, unknown quantities.

The examiner does not ask only, "What disease has this man and how can I cure it?" He asks, "What can I, as a physician, do for this man? How can I find and cure his illnesses, past, present, and to come? How can I extend his years and fill them with health, strength, and satisfaction?" Geriatric service seeks to cure, support, protect, and ameliorate. It also endeavors to postpone, minimize, and prevent degenerations related to age and aging. Age fighting is the central purpose and distinctive feature.

Since we are dealing with age, it would be wise to define age as best we may. We suggest the following classification:

There are seven kinds of age, of which four are biological: anatomical age, physiological age, psychological age, and pathological age. Three are ages of record: chronological age, statistical age, and hereditary age. The geriatric examination regards them all.

CHRONOLOGICAL AGE

This is age in years. A man of 60 is 60 years old, plus nine months. These nine months before birth are by far the most important of all life, for they determine so much of its quality as well as its length. We shall call upon the obstetrician, the geneticist, and all other specialists in the science of life to give us further information and guidance on what we, as geriatricians, can do in these nine months.

But a man of 60 is not only 60 years and nine months old, he is over 60,000,000 years old. In conducting a geriatric examination, we must go back and remember not only the preceding life of the man, but the life of the race, and the preceding stages of life development which started with the First Cause and has proceeded through the ages to produce the first atom, the first molecule, the first living cell, the first vertebrate and the man we examine.

This introduces our study of the immediate ancestry. There is *nothing* that can be found in the man that has not been foreshadowed in the lives which produced him. It is a great advantage to examine as many as possible of the family; brothers, sisters, parents, and others. Of course, we are familiar with the occurrence of illness of later life, cardiac disease, hypertension, and diabetes in successive generations, but there is much more to know and use to the advantage of any one branch of the family tree. There is an additional advantage to be gained by the examination of the wives, husbands, siblings, and children.

The geriatric examination of the person is not complete until we have examined his living conditions. If one member of the family has a headache, all other members may suffer; and a painful chronic colitis in one may cause high blood pressure or angina in another. The family is not only an organization it is a living organism. This illustrates the importance of the integration of social and psychological services as part of the geriatric examination and program. Chronological age, however, is circumstanced

by aging in the fields of anatomy, physiology, psychology, and pathology.

ANATOMICAL AGE

Anatomical age is shown in the body cells, in drying, hardening, shrinking, collection of more or less inert material, changes in permeability of cell membrane, and so forth.

During life, structures appear, grow and mature, decline and atrophy. These successive anatomical stages can be seen in cells, tissues and organs. These changes proceed at different rates in different persons and in different parts of the body. Therefore anatomical ages differ in different persons and in different organs.

In this connection we need to give more attention to the effect of gravity upon the man. Year by year, through advancing life, gravity is continually pulling him down, dragging upon organ after organ, upon the shoulders, neck, chest, and head, until finally he is dragged down again for his final rest. It has taken man eons to rise to the erect position and it takes only a lifetime to lose it.

In recording anatomical aging, we note the comparative size of the chest and abdomen. The chest should be measured at minimum and maximum, the abdomen contracted and relaxed. After babyhood the chest measurements should exceed the abdomen measurements by 10 per cent. Every inch the abdomen exceeds the chest carries a penalty. If the chest cavity is decreased, the heart is ptosed and crowded, the aspiration of the thorax diminished, blood and lympth lag in their upward movement to the heart. Stagnation results and stagnation causes deterioration and damage, commonly ascribed to aging. This postural stagnation must be recognized. It can be fought, prevented, and to a great extent overcome.

Other anatomical records in this field are made by dropping a plumb line in front—it should touch the chest but not the abdomen. Dropped at the back, neither the neck nor the lumbar spine should be away from it much more than an inch or two. Anatomical aging is seen in the arcus senilis in the eye, the hardness of the veins and arteries. We must obtain some convenient way of recording the hardness of arteries in addition to palpation. A comparison of the time of the pulse beat at the carotid with the time of the beat at the radial, or dorsalis pedis artery, is suggested as a measurement of the speed of the pulse wave, which increases in rapidity with the progress of arterial hardness.

We should like some convenient method of recording the elasticity of the skin, possibly by graduated tension calipers. This is a sign of great possible significance and usefulness in life management, and may guide our use of certain vitamins and certain amino acids, now under promising experiment.

The number of teeth that a man has lost is equally historic, diagnostic, and guiding. These, and many other signs of anatomical age, all have their counterparts in physiological aging. Every body part has many messages to the examiner. When he examines the eye, tongue, skin, heart or any other region or function, he is examining (1) the nervous system, (2) nutrition, (3) the circulation, (4) the endocrine service, and, to a great extent, the psyche. He cannot examine one without regarding all. This is holism, basic to medical service to the aged and aging. It is basic to completeness in all medical examinations and all medical treatment. There are no isolationistic organs.

PHYSIOLOGICAL AGE

Every function of the body changes, and most commonly, declines, with age. There are three great areas of interest, the nervous system, the endocrine glands, and the circulatory system. All of these are circumstanced by nutrition in all its seven phases.

The measurement of physiological efficiency may be disregarded by the unwary physician who is merely in search of a diagnosis, but never by the geriatrician. He has two methods, one of which is ordinary testing of the various physiological efficiencies at the basal level and the second is the "stress test," in which the organ or system, is given a task to perform or a stress to overcome which is a challenge to its ability to meet the strains of life, illness, or age. The stress test may be called prophetic. Many stress tests are familiar to medicine, for example: the

AMERICAN ACADEM D

8th An onver

May 14, 15, 16, 1954 – Per ood

DIAGNOSIS AND TREATMENT PLANNING

Thursday, May 13

7-9 P.M.—Registration ..... Lobby

8:00 P.M.—Board of Trustees Meeting
Dutch Room

Friday, May 14

9 A.M.-5 P.M.—Registration ..... Lobby

Scientific Session — Della Robbia Room

10:30 A.M.—Call to order. Introduction

11:00 A.M.—DERMATOLOGY

M. HARRIS SAMITZ, M.D. Director, Skin and Cancer Hospital; Chief of Dermatology, Graduate Hospital, University of Pennsylvania, Philadelphia

12:15 P.M.—Luncheon ..... Ball Room

Scientific Session — Della Robbia Room

2:00 P.M.—CARDIOVASCULAR DISEASE

WILLIAM LIKOFF, M.D. Chief of Cardiovascular Department, Bailey Thoracic Clinic, Philadelphia

3:00 P.M.—METABOLISM

ANTHONY SINDONI, JR., M.D. Medical Director, St. Agnes Hospital; Chief of Metabolic Service, Philadelphia General Hospital, Philadelphia

4:00 P.M.—ENDOCRINOLOGY

NORMAN G. SCHNEEBERG, M.D. Chief of End Clinic, Albert Einstein Medical Center, Southe vision, Philadelphia

6:30 P.M.—President's Cocktail Party and Dinner ..... Ball

Saturday, May 15

9 A.M.-5 P.M.—Registration L

10:00 A.M.—Business Meeting
Della Robbia

12 Noon—Luncheon ..... Ball

Scientific Session — Della Robbia Roo

2:00 P.M.—THE TEMPORO-MANDIBULAR JOINT

OSCAR BATSON, M.D. Professor of Anatomy, uate School of Medicine, University of Pennsy Philadelphia

3:00 P.M.—BONE GROWTH

WILTON M. KROGMAN, M.D., Ph.D. Profes Physical Anthropology, Graduate School of Me University of Pennsylvania, Philadelphia

4:00 P.M.—BENIGN TUMORS

ANDREW J. DONNELLY, M.D. Professor of Path Temple University School of Dentistry; Chi Department of Research Pathology, Institute for cer Research, Philadelphia

DENTAL MEDICINE

Annual Convention

Penrose Hotel, Philadelphia, Pa.

P.M.—Dinner ..... Ball Room

Awards to Honorary Members

Sunday, May 16

M.-10:30 A.M.—Registration ..... Lobby

A.M.—Discussion Groups ..... Ball Room

ENDODONTICS

EL SELTZER, D.D.S. Associate in Oral Pa-gy, University of Pennsylvania School of Den- Philadelphia

OCCLUSION

L. BALIN, D.D.S. South Norwalk, Conn.

PERIODONTICS

EL CHARLES MILLER, D.D.S., F.A.A.A.S., D., F.A.D.M. Professor of Periodontia, New University College of Dentistry, New York

PROSTHETICS

ON AMSTERDAM, D.D.S. Associate Professor of dontia, Temple University School of Dentistry, delphia

A.M.—General Discussion

rator—SEYMOUR POLLOCK, D.D.S., delphia

P.M.—Luncheon ..... Della Robbia Room

P.M.—Board of Trustees Meeting
Dutch Room

LADIES' PROGRAM

Thursday, May 13

7:00 P.M.—Registration—Meet your Hostesses

Friday, May 14

9:00 A.M.—Registration

10:30 A.M.—Bus Tour

Tour of Historic Philadelphia
Luncheon at an Historic Inn
Tour of Valley Forge

6:30 P.M.—President's Cocktail Party and Dinner — Ball Room

Saturday, May 15

9:30 A.M.—Morning Shopping

12 Noon—Luncheon — Ball Room

1:30 P.M.—Meet for buses to Hedgerow Theater

2:00 P.M.—Play by Hedgerow Players for the ladies of the Academy of Dental Medicine

6:30 P.M.—Award Dinner — Ball Room

Sunday, May 16

1:00 P.M.—Award Luncheon — Ball Room

immersion of the wrist in ice water to observe the rise in blood pressure; the comparison of the blood pressure lying down with the blood pressure standing, to determine the circulatory efficiency of gravity resistance. (This was introduced by the author forty-five years ago, incorporated in the Schneider test, and has since been used widely, especially in military aviation.) We give the heart a measured amount of work to do, and note the changes in pulse, pressure, and the cardiogram. We give the kidney and liver and pancreas a chemical challenge, and note its efficiency, and perhaps gain some indication of its prospective endurance in the oncoming years. In the State of Maine, it has been claimed that, if a man can jump over a barrel on his fiftieth birthday, he will live past seventy. We can give 15 grains of carmine at dinner time and see how long it takes the digestive tract to clear itself. A reservoir which overflows daily and never empties itself often hides serious and damaging conditions. A patient with asthma for nine years had a bowel movement daily, but showed carmine for eight days. She was cured in 10 days.

Simple stress tests are easily used. They should be much further developed, and progress made in the direction of increasingly exact procedure and mathematical evaluation. And, of course, studies should be made to determine the relationship of the test recorded today with the condition of the organism 10, 20 and 30 years onward. The application of physiological testing to geriatrics is in its infancy.

PATHOLOGICAL AGE

Throughout the years, man ages by damage more than by the mere passage of time.

The simplest and easiest part of the geriatric examination is that for signs of present disease. This is child's play compared with our endeavor to discover signs of illness to come. This task is commonly disregarded, evaded, and discredited, because it lacks the stinging incentive of present pain and is too difficult. Maybe it cannot be done, yet it must be done, and we must do it. This is a challenge to statesmanship.

A severe attack of influenza at 50 may age a man ten years or more through damage to the adrenal glands and other body cells. Many other illness act in the same way. The man is older because of an acute pathological incident. Chronic focal infection in teeth, sinuses, gall bladder, prostate, cause aging from drain on resources and damages from toxicity. Ordinarily a man comes for medical care only when clinically sick or disabled or driven by pain. When he gets well he leaves medical care behind although he may have within his body one to two dozen aging patholigical conditions, some of which may be discovered by diagnostic search and removed.

A man may age from pathological conditions caused by errors in life management discoverable by diagnostic life survey. These may be corrected if the man will cooperate. The use of cathartics, sedatives, tonics, vitamins and food fads are most common and often difficult to correct.

Prevention and discovery and removal of pathological aging is the heart of geriatrics. Where condition is poor or general aging is beyond warrant, the presence of infection can be surmised and verified by a rapid sedimentation test or the shift in the leucocyte count, and perhaps traced to its source or sources. But the condition can be attacked and sometimes apparently eliminated by general all over methods without further identification, with the most dramatic and happy results.

PATHOLOGICAL SURVEY

The study of chronic diseases must begin in the decades of life before their symptoms commonly arise. To do this, there should be established throughout the nation geriatric record and research and service stations, primarily to examine and record the status of individuals at the age of 50, 40, 30, and so on, year by year, for two, three, or four decades, as we have previously recommended.

In one respect, the geriatric method is leading notable advance in medical practice. The idea that the doctor can do nothing because a disease is incurable, or a deterioration irreversible, will be regarded in the future as a betrayal of the standards of the medical profession and of

the interests of the patient. Faced with any incurable disease or any of the normal deterioration of aging, the physician works for three things: alleviation, palliation, and postponement.

His method is characteristically one of support. For example, if a heart condition is incurable, he will bring all the other organs, nutritional resources, and the hygiene program of the patient up to the highest efficiency. This gives the heart better services and less labor and also may remove one or more of the original and continuing causes of cardiac condition. This, in turn, gives the heart a chance to return to the organs longer and better service than before. The man is better, the heart is better. Many a man has become more active, more vigorous and happier after his first coronary attack by the use of this method. If one cannot restore the crippled organs, restore the man and he may "cure" his own heart.

This is typical of the direction of advance in geriatrics because it applies to every organ and function. Much can be done for the weakened or diseased and otherwise hopeless kidney, liver, heart, pancreas, eye, joints, arteries, and the mind of the aging man, by this procedure. It is generally approved in principle and is being increasingly followed. Research is bringing out the fact that the illness of one organ is often due to failure of another, and this in turn the result of a cause still more occult. This points to the importance of a thorough allover examination of the whole patient in the presence of any chronic illness and also in the presence of no apparent illness at all.

In ordinary medicine mono-diagnosis may be tolerated. In geriatrics, poly-diagnosis, with a thorough synthesis of interrelationships into a complete life pattern, is the way of progress and the essence of holism. Much more may be said on this subject. The "push-button principle" is commencing to be recognized in our medical schools. An electric bell may sound its symptoms at parts of the body far remote from the push-button which actuates it. The use of the "trigger points" and sphenopalatine ganglion treatment are examples.

PSYCHOLOGICAL AGE

Every good physician realizes that the body has a mind and the mind has a body. They aid, support, age, damage and restore each other, and each is at the mercy of the other. Yet each can be used to aid the other's salvation.

In geriatrics we must remember that we turn over the management of the man to the man himself. We must know his ability as a self-manager from his past record and current life routine report and we must help him develop this self service. It is more and more important to recognize that everything depends upon the endocrine glands and the autonomic nervous system. The "sympathetico-tonic," quick-pulsed extrovert must get the benefits of well-directed, wise self-management as well as the far-sighted, conservative, slow-pulsed, introverted, low-blood pressured, good-humored "vago-tonic." These two kinds age differently. Their habits and minds, feelings and illnesses, in short, their whole lives are different. To this we must take heed.

In our geriatric examination we must find out all we can about the endocrine glands. We read their various weakness or strength, stability or instability in the eye, skin, speech, pulse, tongue, stature, action, history and record by test. They are the managing superintendents of the departments of the body-mind organization. We, as visiting examiners must know, respect, aid, and use them all.

In making our psychological exploration, we can use key questions which are calculated to give pilot information on the nature of the life as it is lived and life as it can be lived.

Especially significant are likes, dislikes, and the attitude toward the future. The following questions have been found useful:

"There are some things that I enjoy doing —and I do very well, particularly. . . ."

"On the other hand I am not good at. . . ."

"The things that annoy me most in life are. . . ."

"Ten years from now I would like to do. . . ."

"Ten years from now I would like to be. . . ."

The way the examinee answers these and other questions in his self-reported history reveals and guides.

In connection with psychological age, much information is to be gained by the evidence of structure, physiological status and test, voice, manner, action and reaction. When you greet a man and shake his hand, you have gathered more important data than you can classify in a half hour. This is supplemented by a patient hearing of the examinee's own story. Ancestral traits, geographical and anthropological, give their guidance. People from different parts of the world have different bodies, minds, cephalic indices, hands, feet, colons, thoughts, feelings, glands, perspectives, and digestions. Thus we explore the mind as we examine the body.

These, therefore, are the four biological ages: anatomical, physiological, psychological, and pathological. To these we add three ages of record, chronological, as already discussed, statistical, and hereditary.

STATISTICAL AGE

This refers to man's "life expectancy," the average number of years he may expect to live. Since 1900 life expectancy of the child at birth has increased approximately ten times the life expectancy for the man of sixty.

Life expectancy varies with sex, occupation, residence, race, and medical care. Those who have health examinations live longer on the average than those who do not. Longer and better lives may be expected to result from more and better geriatric care.

HEREDITARY AGE

This term may be used to modify the "statistical age" by the recognition of the fact that a long-life ancestry tends to make long-lived men. It is proposed that the ages of grandparents, father and mother, uncles, aunts, and grand-uncles and aunts of a certain individual be averaged and called the "hereditary age." If the person is living, the expectancy may be added to present age. This is frankly speculative and there are statistical hazards, but the man of sixty whose forebears averaged ninety-five at death is potentially a far different man from the man of sixty whose ancestors averaged forty-five years of age, and this fact should be noted in geriatrics. Where the hereditary age is markedly low, we must examine the ancestral tree, root and branch, for scientific guidance. To say, "Oh, yes, that is hereditary, we can do nothing," is to recall the day of dull and lazy ignorance.

Thus we have discussed the seven aspects of age, more clearly to define our purpose and guide the method of the geriatric examination. We may well turn our attention to the practical management of the examination itself.

One of the commonest errors which defeats the purpose of the geriatric examination is to consider that when the examination is finished, the task is done, its purpose accomplished, and nothing else is necessary. This is a surprisingly common attitude and it is bad. The examination is nothing in itself. Its only purpose is to initiate and guide an age-fighting program which continues through the rest of life.

The examination is followed at once by efforts to remove pathological conditions, to correct all age-producing influences of a negative character, including defects, deficiencies and destructive errors in life management. On the positive side, it seeks to add advantages, privileges, and betterments to life through diet, medication, uplift and outlook, which will make life more vivid, serene, secure, long and strong. These purposes are distinctive, and determine the method and manner of the examination. They must be kept in mind.

EXAMINATION PROGRAM

The examination is preceded by the one great essential, that the man should come for his examination with a clear vision of the advantages to be gained. He has overcome his inertia. He has decided not to wait for pains, damages, breakdowns, but to forestall them. He wants anti-aging aid to the full limit of service and skill and of scientific possibilities. The more he wants the more he will get.

If possible, he should be furnished with a full length history or record to fill out in advance.

The examination itself is done in three parts: each takes about an hour.

The first visit: This is the "pilot" examination. The examinee's story is heard in full with his history record. This begins a diagnostic survey covering ancestry, history, and all body parts, organs, and services, blood pressure, heart, lungs, abdomen, joints, nerves, eyes, ears, hopes and fears, etc. There is also a search for clues of aging, and every clue is followed up. Tests, reports and radiographs are ordered. This is the "data gathering" visit.

The second visit: The physician analyzes all items of evidence and all data, retests, rechecks, and correlates all information in terms of the whole body and the whole life. Anti-aging possibilities are looked for, and action prescribed. Correction and treatment to be undertaken at once are planned and initiated. A preliminary life program, remedial and constructive, is planned and given. It is to be tried out and reported on at the next visit.

The third visit: After two to four weeks, the results of the preliminary program are checked, retests are made, and then the full health program for six months or a year is given with all the necessary prescriptions, and with the main points in writing for the patient's own guidance. Anti-aging procedures will be planned and arrangements made for them to be carried out as the occasion warrants. Every doctor has his own method which is varied for every applicant.

The student of the geriatric examination might find something of interest in the forms and methods which have been developed by the writer during the last 30 years in clinic and individual practice. They are based upon "Medical Examination and Personal Health Record," a booklet of convenient size, which can be sent to the examinee to fill out in part before the first examination. It contains also a brief medical examination record and, in addition, individualized prescription of diet and exercise with a place for the record in following the constructive program.

This was first tried out at our Health Service Clinic of the Post Graduate Medical School and Hospital, established in 1925 and has been used as a model for clinic and private practice at various times and places. It outlines the whole program of examination, treatment, counseling, progress, and program.

In connection with this effort a procedure of simple physical test and personal record has been devised. It provides for a day by day, hour by hour, record of diet, rest, work, occupation, medication, bowels, and urine, for at least four days. At the beginning of this period a gastrointestinal motility and clearance test is begun. This consists in providing 15 grains of carmine to be taken on the evening of the first day. This colors the meal and watch is kept to observe first and last appearance of red in the stools. The patient, and the physician also, may sometimes be astonished to find that in spite of a daily evacuation, carmine will keep coming for seven or eight days. This observation is of great importance. At the same time 2 grains of a dye are given and watch is kept on the appearance and disappearance from the urine. This will take from 12 hours to 12 days. On completion of the four days of life and food management record, a urinalysis sample is taken, after a period of 12 hours without fluid. This provides, in addition to the ordinary findings, a simple kidney concentration record and it gives the physician the background of the diet and life management of three days preceeding. This gives a much greater body of information than the simple, ordinary, morning specimen of urine.

After the examination the next step is to initiate de-aging procedures. That is the removal of all removable pathological conditions, the rehabilitation of substandard physical processes, the extraction of bad life management methods from the life program. This may require treatment and medication of any or all kinds. This is followed by a period of training and watchful management which lasts the rest of the prolonged and privileged life.

This geriatric service which begins with the examination is the only thing that is worthwhile. The examination itself is fruitless unless

geriatric service is undertaken and carried forward. The results of this service are proving themselves to be more solid, satisfactory, and enduring than many of the miracles hoped for and promoted by the sincere efforts of Voronoff, Brown-Sequard, and Steinach, and they approach the realization of the hopes, labor, and vision of the scientists of today.

SUMMARY

The geriatric examination includes all that has to do with age and aging, as well as illness and disability. Its purpose is to give a foundation and guidance for a program of life management which includes cure, prevention, and amelioration of illness, postponement of aging and disability, increase of vigor and vitality, and insofar as possible, de-aging. It is holistic. The whole man and the whole life are examined, the whole man and the whole life are served.

Immediate correction of remediable conditions begins the anti-aging program. Geriatric service and health coaching through life are emphasized.

Thus, the geriatric examination introduces life-long geriatric service; remedial, preventive, and constructive.

To the dentist it is a matter of importance for he has a strategic position in every whole man, whole life examination. No program of prevention, remedy, or rehabilitation is complete without his aid.

Moreover as a valuable man in human service it is incumbent upon him to go and get the best possible examination and health service for himself. His own life should be long, rich and rewarding. So may it be!

1035 Park Avenue, New York, N. Y.

QUE FACER IN RE VETULESSA E VETULESCENTIA

Per Dr. med. C. Ward Crampton

SUMMARIO IN INTERLINGUA

Hodie il es possibile que un homine de sexanta o mesmo septanta annos es tanto juvene, vigorose, e vital como le homine median de quaranta. Del altere latere il es etiam possibile que ille presenta le apparentia commun de un persona de octanta: vetule, debile, e miserabile. Si un homine es vetule o juvene al etate de sexanta o octanta depende del servicios que ille requesta ab le profession medical durante le duo decades ante sexanta.

Le geriatria face significative e notabile progressos. Mesmo in le caso de morbos que al tempore presente pare esser incurabile o de un deterioration que es irreversibile, le geriatrico pote nonobstante facer multo plus que lo que es indicate per le terminos alleviation, palliation, e postponimento. Si un affection cardiac pare esser incurabile, le geriatrico pote conditionar omne le altere organos, le ressources alimentari, e le regime hygienic del patiente al plus alte grado possibile de efficacia. Iste procedimento ameliora le servicios recipite per le corde: illo reduce le labores del corde; e assi illo pote ben remover un o plures del perdurante causas original del affection cardiac. Como resultato de iste methodo multe personas ha devenite plus active, plus vigorose, e plus felice *post* lor prime attacco coronari.

Multe cosas pote esser facite contra le debilitate o morbiditate del renes, del hepate, del oculos, arterias, articulos, e del mente del homine vetulescente. Nostre recercas apporta constantemente nove provas del facto que le morbos de un organo resulta frequentemente del mal functionamento de un altere, e iste defecto de su parte pote ben esser le effecto de un processo ancora plus occulte. Omne isto sublinea le importantia de un minutiose examine general del integre patiente—non solo in le presentia de un morbo chronic sed esiam ante le declaration de qualcunque affliction pathologic.

Le effortios "disvetulescente" non tenta corriger le etate chronologic. Illos es preoccupate plus tosto con le quatro formas significative de etate biologic, i.e., le etate anatomic, le etate physiologic, le etate psychologic, e le etate pathologic.

NATIONAL INVENTORY OF DENTAL HYGIENISTS

A national inventory of all dental hygienists has just been launched, it was announced by Margaret E. Swanson, Executive Secretary of the American Dental Hygienists' Association.

The first of its kind in this country, the inventory is expected to reveal basic facts, current trends, and future needs of the profession.

"Dental hygienists," Miss Swanson said, "occupy an important place among the health personnel of our Nation. They are employed in private practice, in schools, in hospitals, in the armed forces, and in various public health agencies. However, there is no accurate information available as to how many there are, where they are, and other vital characteristics."

Considerable interest has been expressed in this project, Miss Swanson explained, by the various governmental and non-governmental agencies which are concerned with health manpower. Included are civil defense agencies, the U. S. Public Health Service, the American Dental Association, and schools of dentistry and dental hygiene.

Questionnaires, which will be mailed to all active and retired dental hygienists, will seek to determine where and how they are employed, conditions of employment, salary schedules, types and length of education, duration of stay in the profession, marital status, and other characteristics. The information given will be held in strict confidence, Miss Swanson stressed. The data will be analyzed by the Division of Dental Resources, U. S. Public Health Service, which has participated in the planning and design of the inventory.

PLANNING FOR RETIREMENT*

By Alonzo F. Myers, Ph.D.†

Most people fail to make plans for their retirement. There are several reasons for this failure. They just do not want to think about retirement. The word has too many unpleasant connotations. It reminds them that they are growing older, and who wants to think about getting old? Such attitudes certainly do not make sense, but they are very commonly held, and they help to account for the fact that so many people come to the point of retirement wholly unprepared for it and its associated problems. This attitude is not confined to ignorant and unintelligent people. Many successful and well educated people just do not want to think about retirement.

MAY NOT LIVE THAT LONG

Some people refuse to think and make plans for their retirement because they may not live to that age. It is quite true that a given individual may not live to retirement age. Such an attitude, however, is not that of a prudent person. It is as foolish as refusing to carry life insurance because you may not die until you are very old.

TOO BUSY

Some people think they are too busy to devote any time to making plans for their retirement. It must be admitted that many people are kept quite busy with the day-to-day demands of their work. No person, however, should permit himself to become so absorbed with the details of his job or profession that he has no time to live a good life and to make plans for continuing to do so.

LET TOMORROW TAKE CARE OF ITSELF

There are many people who appear to live only for today. Let tomorrow take care of itself. They figure that something will turn up. And sometimes it does. The man who fails to save for his old age may strike oil. Unfortunately, the likelihood of striking oil is too remote to justify relying on it.

Perhaps the most common reason why people fail to make plans for their retirement is just plain procrastination. They will do something about it tomorrow, but not today. One can always think of reasons for not doing things. It is easy not to do anything about something as remote as retirement appears to be, especially to a person who has just turned fifty.

REALISTIC PLANNING IS ESSENTIAL

It is as dangerous to have unrealistic attitudes toward retirement as it is to refuse to think about the matter at all. It is not easy for most people to be realistic in making plans for their retirement. It is exceedingly difficult for an individual to be even reasonably objective about himself. The problem is further complicated by the fact that one needs to be objective in thinking about his changing self. If I do not really know what I am like now at fifty, how can I have any adequate notion of what I shall be like at sixty-five or seventy? It is little wonder that so many people make wholly unrealistic plans for their retirement.

ESSENTIALS FOR A GOOD RETIREMENT

Good retirements rarely are happy accidents, although good or bad fortune frequently influences the kind of retirement the individual will have. There are certain essential elements to a good retirement. What the individual does about these will in large measure determine the success of his retirement.

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† Chairman, Department of Higher Education, New York University.

HEALTH

Unquestionably the most essential element to a good retirement is good health. The other elements can be of little value if this one is missing. Medical science in our time has enabled people to live longer and with more abundant health. These advances in medical science will be of little value to the individual, however, unless he takes advantage of them. The rich man has but limited advantage over the person in moderate financial circumstances in this matter of health protection and health care. The Blue Cross for prepaid hospital care, and the Blue Shield and similar plans for prepaid medical-surgical care, have brought the advantages of adequate medical care to millions of our citizens who in the absence of such plans would be unable to afford it.

FINANCIAL PROVISION

Adequacy of retirement income perhaps ranks second only to health in the essentials of a good retirement. What constitutes adequate retirement income? That, of course, is a highly individual matter. It depends on such factors as pre-retirement income and living standards, amount of need for medical care (a highly unpredictable factor), number of dependents, and whether or not one owns his home and intends to go on living there after retirement.

A pretty good general rule which, like most generalizations, has many individual exceptions, is to figure that the retirement income should be equal to at least fifty percent of the pre-retirement income. Such an estimate is based on certain facts and assumptions.

1. Facts:

Double Federal income tax exemption after age sixty-five.

Full deductibility of medical expenses in figuring Federal income tax liability after age sixty-five.

No more Social Security payments to make unless one works for pay.

No longer necessary to save for retirement.

Elimination of certain costs incidental to the job.

2. Assumptions:

Life insurance policies and annuities fully paid up.

Children grown, their education paid for, and self-supporting.

Home fully paid for.

Retirement income partially tax-free.

Somewhat reduced personal and household expenses. No longer necessary to "keep up with the Joneses."

There has been a long-time trend in the direction of higher living costs. For example, the 1953 dollar is worth only about 54 cents as compared with the purchasing power of the 1939 dollar. Pensions and annuities, unfortunately, are paid in dollars and not in fixed amounts of purchasing power. Consequently, many persons who thought they were making adequate provisions for their retirement have been sadly disillusioned. The individual would be well advised to take this trend toward rising living costs into account in estimating what his need for retirement income will be, and endeavor to make provision for it.

WHERE TO LIVE

Here, as in all other aspects of retirement, individual differences play an important role. Some people are like my friend who said he did "not want to die in Pittsburgh." Some want to move to California or Florida; others want to spend their winters there. Many people want to stay on in the community and in the home in which they lived during their active work careers. There is no one best answer to this question of a place to live. It is, however, a most important decision and one that should be made well in advance of the time the retirement is to take place.

If the husband and wife think they would like to live in a section of the country other than the one in which they have been living, they should spend some of their vacations in that section well before retirement. They certainly should not invest in a home in a section with which they are not thoroughly familiar. It would be wise policy to rent for at least a year before buying.

SOMETHING TO DO

Most people need something to do in their retirement. For men, this generally turns out to be a more serious problem than for women. When the husband retires with nothing to do, not only is he usually miserable and cranky, but he becomes a terrible problem to his wife. Her work continues much as it had before he retired, except that now he is underfoot, and he is at home for lunch. Both husband and wife in such a situation are deserving of sympathy.

I have frequently observed the habits of retired men and women in Florida hotels where neither the men nor the women had anything to do except to loaf and presumably enjoy themselves. A few of the men fished. Some played shuffle board. Most of them just sat, complaining to each other, or to anybody who would listen, about the government, taxes, and the cost of living. But their favorite theme was their physical ailments. They were frustrated and unhappy because they had nothing to do. If this kind of living did not kill them it, at least deprived them of any strong desire to live.

Among the women the pattern of living was sharply different. They organized canasta clubs and bridge clubs. They affiliated themselves with the local clubs and organizations of the kind they had belonged to back home. They transferred D.A.R. memberships and church memberships. They entertained and were entertained at breakfasts, teas, luncheons, and dinners. Most of the women appeared to be busy and happy. Their only serious problem was their unhappy, complaining husbands.

Many retired people need to supplement their retirement income. If there is to be such a need, the individual should make definite plans for doing so before he retires. Regardless of whether or not there will be the need to earn in retirement the great majority of people will need to find something to do. Without it they will be thoroughly unhappy in their retirement.

AT THE RIGHT TIME

Several considerations should enter into the decision as to whem the individual should retire from his present work. Health certainly is one of the most important. It is true generally that a successful adjustment to retirement becomes more difficult as one grows older. It is a matter of common observation that the longer one postpones retirement the more difficult it is to retire. The longer they stay on the job the more they become wedded to it, until for many the thought of separation from the job becomes almost unbearable.

Most people can not look forward to as much retirement income as they would like to have. Many fail to make adequate financial provisions. Rising living costs shrink the purchasing power of the retirement dollar. Financial reverses, emergencies, and unanticipated financial obligations force some people to postpone retirement. For many, however, postponement results from just plain acquisitiveness.

A GRADUAL TRANSITION

Retirement should not come as a sudden shock. People usualy have sufficient advance information as to when they are going to retire. To go suddenly from full-time and complete pre-occupation with a job into retirement is a great shock to most people who experience it. There should be a gradual transition over a period of several years from full-time job responsibilities to retirement. This is more easily accomplished in some occupations than in others. Most people, however, have some opportunity to do somethihng about this matter.

Some of the ways by which a tapering off period before retirement can be accomplished are: discontinuance of all overtime work; longer vacations, with or without pay; reduction in responsibilities; and reduction in the number of hours to be worked. All of these ways are being utilized, either at the volition of the indivdual or at the insistence of the employer. The individual should utilize the additional time at his disposal for the purpose of trying out what he plans to do when he retires. A gradual transition into retirement will pay large dividends in happiness and contentment.

My own suggestion to dentists on this matter is that the older dentist should initiate his tapering off process by facilitating the transfer of

older patients to younger dentists. Thus the older dentist would get some relief in his work load, and his older patients would avoid the serious problem of losing their dentist at the time of their most difficult problem of trying to hang onto their teeth.

A MATURE OUTLOOK ON LIFE

The mature adult plans his life and he sees life whole. He recognizes that if he lives long enough he will eventually be old. He does what he can to achieve happiness in the present and to provide for happiness in the future. He accepts responsibility for his own mistakes and endeavors to profit by them. He recognizes that retirement planning is virtually a life-long process and that the kind of retirement he will have will be determined largely by the kind of life he has lived up to retirement. He will aim to be adequately prepared for the predictable contingencies and he will try to have enough strength of character to enable him to make the best possible adjustment to the unpredictable ones.

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PLANAR PRO LE STATO DE RETIRAMENTO

Per Dr. phil. Alfonso F. Myers

SUMMARIO IN INTERLINGUA

Le majoritate de nos non face ulle planos pro nostre futur retiramento. Pro isto il ha plure rationes. Multe personas simplemente refusa pensar a lor retiramento. Le notion ha nimie displacemente connotationes. Alicun personas non vole pensar a lor retiramento o facer planos pro illo proque illes non pote esser secur que illes va viver usque al etate de retiramento. Alicun personas se considera como nimis occupate pro dedicar tempore a facer planos pro lor retiramento. E tunc il ha le gente qui vive solo pro hodie e lassa deman arrangiar se deman. Sed forsan le plus frequente ration pro le qual on neglige facer planos de retiramento es clar e simple procrastination.

Numerose factores determina un felice retiramento. Illos es: (1) un stato de bon sanitate, (2) provisiones financiari, (3) un domicilio adequate, (4) un occupation a persequer, (5) le selection del tempore, (6) un transition gradual, e (7) un matur conception del vita.

Ante lor retiramento le majoritate del gente poterea profitar de experte consultas retiramental. Le individuo qui ha su proprie planos pote determinar per tal consultas si o non su planos es realistic e practicabile. Le persona qui non ha su proprie planos, sed qui comprende que ille deberea haber tales, va profitar de competente consultas in tanto que illos le assiste a elaborar un realisabile plano pro su retiramento. Post le retiramento, multe personas require consultas post-retiramental. In multe casos, nonobstante, le situation es comparabile al problema del individuo qui non consulta su dentista ante que su dentes es defective ultra o quasi ultra le possibilitate de salvation. Nimie personas in retiramento cerca consultas solo post que illes ha devenite infelicissime e totalmente dismoralisate in consequentia de lor experientias retiramental.

Le individuo mesme ha le prime responsabilitate de planer su proprie retiramento. Omne altere agentias—tanto importante que illos sia—es solo supplementari. Illos non pote facer plus que assister le individuo a elaborar pro se mesme un bon e felice retiramento. Il seque, per consequente, que le individuo debe esser le agente active in planar su proprie retiramento e que nemo excepte ille mesme es responsible si ille non succede a attinger un retiramento satisfactori.

GERIATRIC CHANGES IN THE ORAL MUCOSA*

Henry M. Goldman, D.M.D.†

Editor Note: Since Dr. Goldman's presentation before the American Academy of Dental Medicine was composed chiefly of Kodachrome slides, we are presenting a summary of his lecture which we feel will be of interest to our readers.

The teeth and their supporting structures as well as the jaws, salivary glands, and the oral mucous membranes are all effected by senescence. It is the purpose of this presentation to limit the discussion to those manifestations observed in the lips, the oral mucosa, and the tongue. The oral mucous membranes in the late adult, both male and female, may become atrophic taking on a shiny wax-like appearance with a loss of elasticity. The epithelium becomes atrophic and loses it outer layer of keratinized cells while the underlying connective tissue undergoes change. A common complaint in the aged is a decrease in salivary flow, the individual complaining of a dry mouth. Tongue changes are also observed which at times may be due to this decrease in salivary flow, although in many instances no satisfactory explanation can be offered.

Geriatric changes observed in the oral mucous membranes may be explained on the same basis as changes elsewhere in the body. Although a correlary may be evident between the female and male, it is in the former that oral mucous membrane changes more frequently become symptomatic. Of extreme interest are the oral mucous membrane changes observed during and after the menopause. A common complaint is burning or dryness of the mouth, especially the tongue and lips. Occasionally, itching accompanies the burning and is located in the buccal mucosa. Abnormal taste sensations (salt or sour) and pain are also frequent complaints. Examination of the oral cavity reveals an edematous, reddened mucous membrane, glistening in appearance and sore to the touch. The tongue is often smooth and the tip may be reddened and pebbly in character. A glossitis similar to that seen in deficiency disease may also be observed.

Some cases exhibit desquamative lesions involving the gingivae and the buccal mucous membranes. Very frequently the patient is unable to accommodate a removable dental prosthesis. Not uncommon are complaints of soreness of the teeth, causing discomfort on mastication.

In patients during and following the menopause and also in some with gynecologic disorders, it is not too uncommon to find symptoms identical to those described as chronic desquamative gingivitis. This lesion is characterized by a diffuse inflammation of the gingiva and occasionally of the buccal mucous membranes. Recently, in a published report, there appeared some evidence to show that this condition may be related to a defect in the ground substance of the connective tissue.

The gingivae are fiery red, and sometimes bullae may precede the desquamative process. The surface epithelium, especially on the buccal aspect, may desquamate, leaving a raw surface. The disease is chronic in nature with frequent acute exacerbations. The patient usually complains of itching and a mild-to-severe burning sensation, aggravated by the ingestion of spicy foods. In many instances the gingivae are so tender as to prevent mastication of firm foods.

Beth Israel Hospital, Boston, Mass.

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* Presented before the Mid-winter Meeting of the American Academy of Dental Medicine, December 6, 1953, at the Hotel Statler, New York, N. Y.

† Director of the Riesman Dental Clinic, Beth Israel Hospital, Boston, Massachusetts.

Medical Views on Oral Problems

ORAL THRUSH DUE TO ANTIBIOTIC THERAPY*

The first of the four cases presented by Bacon was that of a 5-year-old girl who was given oxytetracycline (Terramycin) every six hours for three days for a grippe-like condition. Then the child complained of a sore throat and swollen glands in the neck. There were pustular and follicular lesions on the mucous membranes of the mouth and throat and white patches on both tonsils. A smear of the lesions of the oral cavity and culture on Sabouraud's medium revealed the organisms to be Candida (Monilia) albicans. The lesions subsided after omission of oxytetracycline and the use of an alkaline mouthwash and gargle. The second patient received penicillin intramuscularly and as an inhalation in the form of an aerosol because of bronchiectasis, laryngitis, and sinusitis. The third patient also had been given penicillin intramuscularly and by mouth, and the fourth patient had received the same antibiotic parenterally. C. albicans was cultured from the oral lesions of all four of these patients. The author feels that moniliasis or oral thrush should be considered if a patient complains of a sore throat and sore mouth after the use of antibiotics. The examination reveals tiny pustules with a red or coated tongue and white membranes on the tonsillar areas. The diagnosis is confirmed by smears and cultures obtained from the mouth and throat. The cause is an overgrowth of C. albicans. The determination of the oral pH and the finding of an acid saliva are additional adjuncts. The treatment includes the omission of the offending antibiotics and the use of alkaline mouthwashes and gargles.

* Medical Literature Abstracts, J.A.M.A., Jan. 16, 1954, p. 273.

USE OF PREMAXILLARY FLAP IN BILATERAL CLEFT PALATE*

Coe points out that one of the many problems encountered in the treatment of bilateral cleft palate is that of closure of the opening immediately posterior to the premaxilla. The literature on cleft lip and palate contains many solutions of this problem, among which are the excellent but somewhat complicated method of Victor Veau, the reflecting of flaps from the base of the vomer and the nasal septum, the fitting of the premaxilla back against the united hard palate or the ends of the alveoli, and the use of dental prostheses. For over 20 years, Coe used these methods with varying success but was generally dissatisfied with the results. In some patients, the floor of the nostril is composed of soft tissues rather than bone; in others, the central incisor teeth erupt in marked lingual occlusion or even into the nostril; and in some, the premaxilla may be extremely moveable, and at times a prosthesis may be necessary. About 10 years ago, Coe began to use a flap from the posterior surface of the premaxilla in a somewhat different manner. The usual lateral mucoperiosteal flaps are raised, and, if they do not permit closure of the anterior end of the cleft, the size of the remaining defect is estimated and a flap laid out on the posterior surface of the premaxilla with its base at the nasal septum. This flap is larger than the defect, and the location and size of the pedicle insures excellent blood supply. The flap is reversed with its mucous surface toward the nasal cavity and held beneath the ends of the lateral flaps with stitches bringing the raw surfaces of all flaps in broad contact. The edges of the lateral flaps are then united over the raw surface of the premaxillary flap. This procedure does not close the alveolar clefts, which require separate treatment either at the same time or later, but in a high percentage of cases it does give a satisfactory closure of the troublesome opening. Coe used this method 27 times in 23 cases. In 18 of the 23 patients, the closure was highly satisfactory. The author makes no claim regarding the originality of this method, pointing out that it is merely a modification of well-recognized and accepted principles.

* Medical Literature Abstracts, J.A.M.A., Jan. 16, 1954, p. 276.

EXTRACTION OF TEETH*

To the Editor:—At our institution we have had considerable discussion on the advisability of giving antibiotics after the extraction of teeth. Your opinion will be very much appreciated.

M.D., Alabama

Answer.—Penicillin should be given to patients after tooth extraction when rheumatic heart disease or congenital heart disease is present. Also, in the presence of a definite infection, penicillin or other antibiotics should be administered. The incidence of bacteremia following tooth extraction is decreased by antibiotic therapy. Although it has been shown that Streptococcus viridans may still circulate in the blood after such chemoprophylaxis, implantation of the organisms on damaged heart valves is, for the most part, prevented, and subacute bacterial endocarditis does not develop, except in those instances in which penicillin-resistant bacteria produce the bacteremia. While the presence of congenital or rheuma-

tic heart disease are absolute indications for chemoprophylaxis, it is probably best also to give patients with arteriosclerotic heart disease the same type of treatment since occasionally this type of cardiac damage may be involved in the development of subacute bacterial endocarditis if bacteremia occurs.

It is impossible, on the basis of the presently available information, to make an authoritative statement in regard to penicillin prophylaxis in dental extraction in all patients. There is little doubt that such management will reduce the number of local complications caused by bacterial invasion, osteomyelitis of the jaw, and cellulitis of the floor of the mouth (Ludwig's angina), for example. The application of such universal chemoprophylaxis must be evaluated, however, in the light of the rarity of secondary bacterial infections following careful dental extraction and the increasing frequency of serious reactions to penicillin and other antibiotics. Because of the increasing number of reports of severe and even fatal reactions to various antibacterial drugs, their use is best restricted to specific situations where prophylaxis is obviously indicated, such as heart disease or infection of the dental structures.

* Queries and Minor Notes, J.A.M.A., Jan. 30, 1954, p. 461.

MISUSE OF PROLABIUM IN REPAIR OF BILATERAL CLEFT LIP*

This report demonstrates that in repairing bilateral cleft lip in infants, a choice must be made between a procedure wherein the prolabium is utilized to construct the columella and one wherein the prolabium is used to form the central portion of the lip. The first of these procedures gives a well-formed nose and lip. Ultimately, however, the lip becomes so elongated that it requires a shortening operation. The use of the prolabium to form the entire central portion of the lip is preferable. The tip of the nose may continue to be flattened, though this deformity is less serious than the elongation of the lip and is more easily corrected after the child acquires an adult face. It would be desirable to combine the virtues of these two methods, but, since this is impossible, it is better to forego a nice immediate cosmetic result in favor of a superior ultimate result. From an experience covering 12 or 15 years, the authors are convinced that the prolabium should be used in its entirety in reconstruction of the cleft lip. The use of the prolabium in the formation of the columella gives consistently poor results.

* Medical Literaute Abstracts, J.A.M.A., Jan. 30, 1954, p. 450.

DENTAL CARIES*

With the large amount of publicity given to the relationship of fluorine in drinking water and the prevention of caries, the much more important relationship of diet and caries is apt to be overlooked. A recent report in Australia . . . serves as a reminder that the real solution of the problem of preventing dental caries is dietetic. Workers from the Institute of Dental Research studied a group of 81 children of European stock of both sexes, living a supervised institutional life. . . . The majority of these children, whose age at the time of examination ranged from 4 to 9 years had been living in the institution since the earliest months of life. The diet of the children consisted mainly of wholemeal bread, wholemeal biscuit, wholemeal porridge, wheat germ, fruits (fresh and dried), vegetables (cooked and raw), butter, cheese, eggs, milk and fruit juices and practically no meat. This was supplemented with vitamin concentrates, honey or molasses as a sweetening agent on occasion, and nuts. Such items as sugar (white and brown), white flour products and tea, were absent from the diet. As far as possible, food was taken uncooked and/or with a minimum of preparation. An examination of the water supply showed that no fluoride was present. The teeth were examined by mirror and probe supplemented with radiographic examination. It was found that 63 of the group of 81 children were entirely free from dental caries, compared with 4% free of caries in a Sydney group on an uncontrolled diet. The average number of decayed, missing and filled teeth per child was 9.57 for the Sydney group and 0.58 for the controlled diet group (immunity increased approximately 20 fold). . . . This lessening of the caries incidence to 1/20 of that of another Australian group used for comparison is in marked contrast to the results of fluoridation of water supplies which in the U. S. A. appears to reduce caries to about ⅓ of its normal incidence.—Child Health: Diet and Dental Caries, Department of Health, Canberra, Australia, *Health: Journal of the Commonwealth Department of Health,* September, 1953.

* J.A.M.A., Jan. 30, 1954, p. 389.

BUCCAL CANCER

The evolution of buccal cancer from the earliest premalignant lesion has been traced by A. H. N. Welikala of Colombo, Ceylon. The first preleukoplakic sign is a brown pigmented area in the cheek which is uneffected by pressure or any local application. With time this turns into a whitish zone which may be filiform or plaquelike in its appearance. The plaquelike patches, which may be as thick as 3 mm., ulcerate with continued irritation and ultimately become cancerous.

Cancer of the buccal cavity accounted for 2,046 cases of cancer, practically half of the number observed at the Colombo clinic over a 5-year period. In contrast, lung and digestive tract cancers were rare: 41 and 17 cases, respectively, of the 4,221 total.

These unique observations were made in Ceylon during the course of an educational campaign directed against the malignant potentialities of betel chewing.

(*Reported at the Seventh International Congress of Radiology, Copenhagen.*)

MEDICATED TISSUE*

To the Editor:—In recent weeks one manufacturer of paper nasal tissues has placed on the market tissues impregnated with alkyl dimethylbenzylammonium chloride ($C_8H_{17}C_{18}H_{37}$). Approximately six weeks ago, I was called to the home of a 47-year old white woman whose chief complaints were hoarseness, a feeling of fulness in the nose and frontal sinuses, sore throat, and nasal discharge. Her clinical symptoms resembled an upper respiratory type of infection. Her temperature was 98.6 F, and her eyes showed no redness or tearing. There was much nasal congestion with redness and nasal discharge. The dorsum of the tongue and the nasopharynx were slightly edematous and quite red. The chest was normal, with blood pressure 125/80 mm. Hg, pulse 88, and respirations 18. This patient was disturbed by a hacking cough. The striking comment made by the patient was the statement that she had a "funny taste" in her mouth for the past three days but denied the use of lozenges, nosedrops, or other drugs. She stated further that she had been perfectly well until she began to notice this queer taste.

I was at quite a loss to account for the clinical signs, in view of no elevation in temperature and pulse rate, and normal chest findings. While bending over reaching into my bag that was on the floor, I noticed two cartons of paper nasal tissues on the chair beside the patient's bed. The peculiar thing about these cartons that caught my eye was the difference in color and manufacture. When I asked my patient why she had two different brands of tissues, she offered the information that the "other brand" had some kind of medication or chemical in the tissues and that she had been using these instead of her usual brand for the past three or four days. I picked up one of the nonmedicated tissues, applied it to my tongue until moist, and tasted only the dry flat taste of the tissue. I did the same with the medicated tissue, and when this tissue was wet I could distinctly taste the acrid drug. The patient was told to discontinue the use of the medicated tissues immediately and was given antihistamines in tablet form. There was diminution of the symptoms in 24 hours and complete recovery in 72 hours.

After a period of two weeks, examination of the nose and throat was normal, so I asked my patient to begin using these drug-impregnated nasal tissues again. In 48 hours, the beginning of the symptoms as previously noted was quite evident. In 72 hours her allergic manifestations caused by the alkyl-dimethylbenzylammonium chloride were full blown. As before, antihistamine tablets were used with excellent results.

Since this reaction resembles a virus or influenza type of infection and since millions of persons in this country use nasal tissues instead of cotton handkerchiefs, physicians may expect a number of allergic reactions to the drug in these tissues.

I. PHILLIPS FROHMAN, M.D.
2924 Nichols Ave., S.E.
Washington 20, D. C.

* Correspondence, J.A.M.A., Jan. 30, 1954, p. 438.

DIAGNOSIS AND TREATMENT OF DIZZINESS*

McNally points out that most writers use the words dizziness or vertigo interchangeably. If a patient complains of dizziness, one must first exclude the possibility that it is a warning sign of imminent labyrinthine invasion in the course of suppurative middle ear disease, either quiescent or active. Fistula and other vestibular tests should be performed at once. Next, evidence should be sought for serious general organic disease, such as cardiovascular or central nervous system lesions that were found in 35% of a consecutive series of 200 cases of dizziness. True Ménière's syndrome or labyrinthine hydrops will be the diagnosis in about 30% of the cases. The remaining 35% of the cases, those in which the dizziness is not associated with cochlear signs or symptoms, are still difficult diagnostic problems and can best be grouped as atypical or pseudo-Ménière's syndrome, constant watch being kept for other diagnostic signs. The treatment of dizziness is still, for the most part, symptomatic. A patient with Ménière's syndrome should be given a thorough trial of medical treatment before surgery is contemplated. Hyosine and its compounds have proved to be among the most effective labyrinthine sedatives. Antihistaminic preparations have been helpful presumably because of their sedative properties. Because of a prevalent theory that labyrinthine hydrops is the result of vascular spasm, vasodilator drugs play an important role in treatment. Nicotinic acid and histamine are the two in commonest use. The operation of choice for Ménière's syndrome, when the disease is unilateral, is labyrinthine ablation. If the disease is bilateral, a differential section of the vestibular portions of both eighth nerves should be considered in the hope of preserving some of the residual hearing.

* Medical Literature Abstracts, J.A.M.A., Jan. 9, 1954, p. 173.

THE HAND AND CARDIOVASCULAR DISEASE*

Despite widespread and sometimes unnecessary use of numerous laboratory tests in day-by-day clinical practice, diagnostic methods that require no special apparatus and that depend only on simple observation can play an effective role in obtaining clinical information about patients. In this connection, the human hand is a unique organ from which an extraordinary amount of clinical information may be derived. According to Silverman and Littman,[1] examination of the hand will often disclose interesting and occasionally revealing information about the cardiovascular status of patients. In a general way, the size of the hand is proportional to the rest of the body, and a rough approximation of the cardiac silhouette is obtained by examination of the size of the fist.[2] Under normal conditions the outline of the first and the orthodiagraphic silhouette coincide, a small fist usually indicating a small heart.

Excessive palmar sweating constitutes one of the more striking findings in neurocirculatory asthenia. Sweating of the palms reflects emotional activities; it is increased during tension and excitement, although some degree of palmar sweating does occur in normal persons who are in a state of anticipation. A tremor of wide amplitude may also be detected in patients afflicted with neurocirculatory asthenia. The combination of excessive palmar sweating and a pronounced tremor of the outstretched fingers is a frequent finding in neurocirculatory asthenia and almost never takes place in normal persons.

Cyanosis and clubbing of the fingers have long been associated with congenital heart disease. Clubbing of the fingers does not appear at birth and very rarely before the age of 2 years; however, when congenital heart disease is suspected, alert clinicians search for associated congenital anomalies. Polydactyly and syndactyly, for example, may be associated with congenital heart disease. Moreover, arachnodactyly, which is characterized by abnormally long, slender fingers, is a hereditary disorder in which there is a high incidence of cardiovascular anomalies, including septal defects, vascular hypoplasia, and medionecrosis of the aorta.

Study of the hand is especially rewarding in the case of subacute bacterial endocarditis. Diagnosis of this disease is sometimes established initially by information supplied solely by the hand. According to Libman,[3] a diagnostic sign pathognomonic of subacute bacterial endocarditis is supplied by the so-called Osler node which consists of a small, tender red nodule located in the pads of the finger or in the thenar or hypothenar eminences. Pallor is a more or less constant finding in subacute bacterial endocarditis; the degree of pallor can be determined by observing the color of the palms. Wintrobe[4] asserts that the palmar site is more reliable for judging pallor than mucous memberanes or conjunctivas.

A clue to the existence of endocrine disturbances is also supplied by the hand. In hyperthyroidism, the hands are tremulous, flushed warm and moist, with the skin smooth and satiny; in hypothyrodism, the hands are dry, rough, and cold. The hand of a cretin is characteristically underdeveloped, while the hand of an acromegalic person is large, broad, and usually coarse and swollen.

The shoulder-hand syndrome is a disabling complication of myocardial infarction, which is characterized initially by a great deal of pain, stiffness, and limitation of motion of the shoulder joint and girdle, and is followed by involvement of the hands and fingers. Two signs of the hand suggestive of disturbance in liver function are thought to occur; erythema of the palms and spider angiomas or pulsating vascular nevi. Raynaud's syndrome primarily involves the fingers, while in advanced congestive heart failure the hands are invariably cold, the veins on the dorsum engorged, and the fingernail-bed cyanotic.

Finally, it should be pointed out that the hands are admirably suited for study of the dynamics of peripheral circulation.[5] As a matter of practical importance, the color and temperature of the skin of the hands sometimes yield more information of impending shock than either the pulse or the blood pressure. Indeed, a warm, pale hand abruptly changing in appearance during illness to a cold, deeply colored, cyanotic state supplies dramatic evidence of peripheral circulatory failure.

* Editorials and comments, J.A.M.A., Feb. 6, 1954, p. 508.

BIBLIOGRAPHY

1. Silverman, J. J., and Littman, D. S.: The Cardiologist Looks at the Hand, New England J. Med. *249*:839, 1953.
2. Roesler, H.: Clinical Roentgenology of the Cardiovascular System: Anatomy, Physiology, Pathology, Experiments and Clinical Applications, Springfield, Ill., Charles C. Thomas, Publisher, 1937.
3. Libman, E., cited by Friedberg, C. K.: Diseases of the Heart, Philadelphia, W. B. Saunders Company, 1949.
4. Winthrobe, M. M.: Clinical Hematology, ed. 3, Philadelphia, Lea & Febiger, 1951.
5. DiPalma, J. R.: Circulation in Skin in Shock Syndrome: Comparison of Simple Prognostic Features of Clinical Value, J. A. M. A. *123*:684 (Nov. 13) 1943.

TREATMENT OF LUPUS ERYTHEMATOSUS*

S. Sophroniadies has found an ingenous way to cure lupus erythematosus within a few days. He lets streptomycin penetrate into the affected tissues by iontophoresis. The skin is cleansed with double distilled water. An apparatus of at least 50 v. supplied with a milli-amperemeter measuring intensities of 0.5 to 10 ma. and having lead electrodes is used. The active electrode is 2 to 8 cm. in diameter (being proportional to the lesion) and covered with pure cotton 1 cm. thick. This electrode is plunged into a fresh 0.05% solution of dihydrostreptomycin in double distilled

water. The streptomycin solution leaves the positive pole. The ratio of the intensity of the current to the diameter of the active electrode must be 1:4. The number of treatments each of 5 minutes duration is 6 to 10 for recent cases and 15 to 30 for chronic cases. During the treatment the author observed desquamation and hyperemia of the skin which disappeared a few days after the treatment was discontinued. This work was reported in the *Echoes of Medicine* of Aug. 1, 1953.

* J.A.M.A., March 13, 1954, p. 935.

SODIUM FLUORIDE TABLETS AND DENTAL DECAY*

TO THE EDITOR:—*What is the present opinion of the value of sodium fluoride tablets for the prophylaxis of dental caries?*

K. W. Covey, M.D., Mahnomen, Minn.

ANSWER:—Theoretically dental benefits may be obtained from individual dietary supplements of soluable fluorides. There is, however, no adequate published study to verify this assumption, which is based largely on the observed results of water fluoridation. The obvious difficulties of individual administration relate to the following factors: 1. An optimum amount of fluoride must be administered daily throughout at least the first eight years of life to attain the dental benefits. There is also some evidence that continued use of fluoride beyond this period may be desirable. 2. The fluoride supplements must be adapted to the individual water supply or used only in areas where the drinking water is essentially free of fluoride. 3. Because of the potential hazards involved in the improper use of fluorides, such supplements should be limited to prescription in those cases that will be adequately supervised. The fluoridation of public drinking water is obviously the method of choice, but fluoride supplementation may prove useful in areas where a fluoridated municipal water supply is not available.

* Queries and Minor Notes, J.A.M.A., Feb. 13, 1954, p. 637.

CRACKING JOINTS*

TO THE EDITOR:—*For years I have been searching for information on the biomechanics and the clinical and pathological implications of the phenomenon of sound produced by the "cracking" of a knuckle or when the arms are over-extended. What is the explanation for the temporary feeling of relief in the joints? What is happening during the interval when the feeling of relief is waning and during which one cannot get the joint to "crack"? Why does the joint "crack" more frequently in cold and wet weather? I have seen patients who, by positioning limbs and trunk in differenmt poses and then contracting muscles "crack" almost every joint in the body.*

M.D., New York.

This inquiry was referred to two consultants, whose respective replies follow.—ED.

ANSWER.—Several theories have been advanced as to the mechanism of joint "cracking," but apparently none has been substantiated by experimental observation. These include the slipping of a tendon or ligament over a bony prominence when the joint is moved or stretched, the pulling apart of opposing joint surfaces, and the forcible sliding of a tendon in or out of its sheath. The temporary feeling of relief may be due to relaxation of muscular tension, with the subjcet unable to produce the "cracking" during the period of relaxation. It is also possible that the tendon, if involved, becomes edematous from the "cracking" and thus relaxed. With the loss of edema, a state of tension may resume that again permits the "cracking" process. If cold or wet weather contributes to muscular tension, then "cracking" would be facilitated. It seems unlikely that the sound is produced by actual breaking of fibrous tissue.

ANSWER.—The phenomenon of "cracking" joints is probably not perfectly understood but several facts are known about it. Most joints that "crack" are not the site of any serious pathological process. Rather, there is some slight aberration in the contour of the joint, such as a roughening or irregularity, over which some structure of the joint passes; after that structure has passed the irregular spot it is restored to normal position, with the accompanying audible or palpable "cracking." Why joints "crack" more in cold weather or wet weather than at other times is not known, and it may not be a fact that they always do this. In cases in which relief is obtained from stretching, probably some mild capsular contracture tends to make the joint slightly uncomfortable and the discomfort is relieved by stretching the capsule. Of course, in severely deranged joints there is often a good deal of audible and palpable crepitus. This obviously is attributable to the irregularities of the joint, and relief is not obtained by movement of the joint. Rather, the opposite is often true.

* Queries and Minor Notes, J.A.M.A., March 13, 1954, p. 966.

Book Reviews

Biochemistry of Disease: Oscar Bodansky, M.D., Ph.D., Professor of Biochemistry, Sloan-Kettering Division, Cornell University Medical College; Attending Clinical Biochemist and Chief, Clinical Biochemistry, Memorial Center for Cancer and Allied Diseases; Lecturer on Pediatrics, New York University Postgraduate Medical School. 2nd edit., 1208 pages, 160 tables, 71 illustrations, New York: The Macmillan Company, December 1952, $12.

Dental and medical practitioners with their ever increasing responsibilities based on expanding knowledge of related and fundamental sciences require some means of correlating the various disciplines into a coordinated picture. Biochemistry, a difficult and complex subject in itself, plays a basic role in modern health service. Nutrition, hematology, endocrinology and psychosomatics as well as all other branches of medicine owe their progress and their level of understanding in large part to the correlated advancement of the knowledge of biochemistry.

In spite of the few recalcitrants who continue to insist on the purely local significance of periodontal and dental disease, the greatest bulk of modern opinion is fired with the realization of the great need on the part of the dental practitioner for a deep knowledge of the systemic background on which the oral disease flourishes. Reverse implications are also likely. The modern dental practitioner can use the knowledge gained by a careful study of this book in the realization of the many impacts from various bodily systems on his field. Much of this is mediated through biochemical changes. Though this book is written for the physician, this reviewer would have liked to see a section devoted to dental problems per se. Yet one cannot turn a page without finding something which does not indirectly or directly affect the field of the dentist. To choose specific sections for special discussion would indicate an insufficient awareness of the dental problem. Although in a narrow sense one might direct the dentist's attention to the section on bone, how can the sections on muscles, blood, endocrines, diseases of the digestive system or even diseases of the kidney and genito-urinary tract be passed by as not bearing on the health of the oral cavity?

Claude Bernard said, "Systems do not exist in nature. They are established by the minds of men." The time when dentistry was an isolated calling without awareness of general bodily health has passed. Today the dentist's knowledge must be on a par with other specialties of the healing art. Books such as Biochemistry of Disease thus become required reference if not required reading for the modern practitioner of Dentistry.

SAMUEL CHARLES MILLER

An Atlas of Human Anatomy: Barry J. Anson, Ph.D., Professor of Anatomy, Northwestern University Medical School. 518 pages, Philadelphia and London: W. B. Saunders Company, 1950, $11.50.

The study of anatomy can be a laborious and confusing undertaking unless it is methodically taught by a competent and thoughtful teacher. The review of anatomy after a variable number of years from the time of guided study is even more difficult since the leadership and constant prodding by pedagogic authorities is usually lacking. Nevertheless a continual refresher course in this subject must be part of the professional routine if one is to serve his patients with the greatest of competence.

For such review, this Atlas of Human Anatomy, even though intended for laboratory use, is most effective. By unusually vivid black and white plates and some color plates with a minimum of descriptive verbiage, the various parts are clearly pictured both to the student at the dissecting table and to the reviewing practitioner. By expert shading and artistic skill a three dimensional character is given to the drawings without confusing the eye by unnecessary detail.

The use of Latin terminology solely in labeling makes the book internationally practical, yet one wonders whether this is as effective to an English speaking reader as if the English nomenclature were at least to appear along with the Latin. One with average knowledge would know the meaning of dentes incisivi lateralis inferiores although it might flow a little smoother in his own language.

Without doubt, this effectively created Atlas will be of value to the student of anatomy. With the same assurance, this reviewer feels it will serve the practicing dentist and physician for reference and review before undertaking surgery and for the visual recapitulation of anatomy as it applies to general and specialty practice. For such purpose this work is highly recommended.

SAMUEL CHARLES MILLER

Handbook of Dental Practice, Edited by Louis I. Grossman, D.D.S., Dr. med. dent. J. P. Lippincott Company, Philadelphia, Second Edition, 1952, 388 Illustrations, 5 color plates, 503 pages, $10.

Nineteen dentists, all of them specialists in their particular field, are contributors to the new second edition of the Handbook of Dental Practice. This volume is practically a new book. Each section has been entirely reviewed, revised and brought up to date.

There is an entirely new chapter on Oral Diagnosis. Among the many chapters containing new material are those on Control of Tooth Decay, Crown and Bridge Restoration, Endodontics, and Exodontics.

Many new illustrations may be found in the chapters on Gold Inlays, Periodontics, and Diseases of the Mouth. The chapters on Orthodontics, and Full and Partial Dentures have been entirely rewritten.

This is a ready reference book for the active dentist. It can save time and money because it is full of technics and tells all the essential, practical, everyday facts. Superfluous material is omitted, and each chapter contains a thorough discussion of the subject. There are numerous drawings and pictures that accompany each chapter, and these are clear and illustrate the point in discussion.

IRVING YUDKOFF

The New Year Book of Dentistry, 1953-54 Series, edited by Stanley D. Tylman, D.D.S., M.S.; Donald A. Keys, D.D.S.; John W. Knutson, D.D.S., Dr. P.H.; Harold J. Noyes, D.D.S., M.D., Hamilton B. G. Robinson, D.D.S.; Carl W. Waldron, D.D.S., M.D. The Year Book Publishers, Inc. Chicago, 493 pages, 337 figures, $6.00.

Once again the New Year Book of Dentistry has reviewed the scores of significant world wide advances made in the field of dentistry during the last year. The six authors review their respective fields thoroughly, and whether one is a general practitioner or a specialist, he will derive a great deal of information from this book. It will serve as a handy reference for those who wish to review and keep up with the latest advances in dentistry.

The fields of Diagnosis, Pulpal and Periodontal Diseases, Caries, Public Health, Orthodontics, Surgery and Related Pathology, and Restorative and Prosthetic Dentistry are discussed by the authors. Every article mentioned in the New Year Book of Dentistry is a condensation of the original article published in a dental magazine in this country or abroad. For those who wish to read the original article the authors always mention the source and when the original article was published.

The book is printed on glossy paper, with large type. The drawings and pictures are exceptionally clear, and follow the text closely.

Psychology of Physical Illness, edited by Leopold Bellak, M.D. Grune & Stratton, Inc., New York, 1952, 243 pages, $5.50.

In its entirety the book presents a most interesting account of the role and treatment of psychological factors in physical illness. However, the section devoted to dentistry is of most value to the practicing dentist.

The material on the dentist-patient relationship is the most valuable I have ever encountered. Not only does Dr. Ewen go into specific techniques for handling the patient, but he even gives some theoretical background for the sophisticated practitioner. When the dental relationship is established in early childhood it becomes apparent that the dentist is able to do a great deal to relieve, and indeed prevent, many troublesome anxieties on the part of the patient that many interfere with proper treatment in the future. The valuable insights given into this should help the dentist prepare his patients to accept necessary dental procedures.

Another valuable contribution is in the unfortunately brief section on disorders of the mouth due to psychological causes. Some of these can be handled by the dentist himself, while others should be referred to the specialist in psychotherapy.

The book is a valuable contribution to the practicing dentists library and is, literally speaking, worth its weight in gold.

HOWARD M. NEWBURGER, Ph.D.

Pathology, edited by W. A. D. Anderson, M.A., M.D., F.A.C.P., C. V. Mosby Co., St. Louis, Second edition, 1953, 1241 illustrations and 10 color plates. 1393 pages, $16.00.

Much has been written about the field of Pathology, and many books have been published on the subject but this text is one of the finest because it encompasses all phases of Pathology. In this second edition all parts have received some revision and have been brought up to date. Many new illustrations have been added and old figures replaced. This text attempts to provide a guide for the beginning student to the subjects of primary and less importance by the use of larger and smaller sizes of type. Many of the subjects or conditions included, usually in smaller type, are designed to make the book useful as a reference tool for more advanced students, or for Pathologists and other practicing physicians.

The nature and effects of Radiation have been given unusual prominence. With the increase of rapid world wide travel and communication, increased attention has been given to Tropical Diseases. Diseases of the Skin, Skeletal System and Nervous System are thoroughly discussed.

The book is printed on glossy paper and the type is large and clear. The illustrations and color plates

are outstanding. Special mention should be made of the excellent photo-micrographs and the thorough and extensive bibliography at the conclusion of each chapter .

Textbook of Biochemistry, by Edward S. West, Ph.D., and Wilbert R. Todd, Ph.D., 1345 pages, 140 tables, 80 illustrations, The Macmillan Company, New York, 1951, $12.00.

This is a comprehensive text on the subject. The book has been so organized that the basic information pertaining to biochemistry is separated from that portion of the subject dealing with the medical aspects. Such separation enables the reader to choose easily the material he wishes to read.

The authors have attempted, where possible, to list the pertinent facts about each substance and topic under discussion in a numerical sequence. Thus the important details can be picked up at a glance. This does not mean that explanations are too brief. Each item is fully explained, experimental proof is given, and repetition of essentials are found where emphasis is needed.

Throughout the book there is emphasis on the functioning of the body and the part all substances play in the chemical, physical and physiological complexities of the organism.

Completeness of discussion is stressed and the authors have included material on nutrition, antibiotics and abnormal constituents found in many diseases and dysfunctions of the body.

Each chapter contains exercises to be done by the reader and a splendid group of references for additional reading.

The mechanics of the book are good. Extra bold headings enables one to pick up the sections wanted with great ease and the rest of the type is clear and distinct so that reading is easy.

The book is a valuable addition to the literature for the teacher, the student and for the clinician. For those interested in biochemistry, this is recommended reading.

LOUIS R. BURMAN

Accepted Dental Remedies, American Dental Association, 1954, 19th Edition, Chicago, 207 pages, $2.00.

This latest edition of Accepted Dental Remedies follows the same format as the previous edition. It is complete, organized in a manner for facilitating the seeking of information and printed in bold type on glazed paper for easy reading.

Every practicing dentist should have a copy of Accepted Dental Remedies in his library.

LOUIS R. BURMAN

Oral Hygiene by Russell W. Bunting, D.D.Sc. et al. Lea and Febiger, 2nd edition, Philadelphia, 283 pages, 204 illustrations and 1 plate in color. $5.50.

In the preface to this second edition the author states that he has "attempted to present a textbook which can be used by teachers of dental hygiene as a working basis for certain phases of instruction to dental hygienists."

This reviewer feels that the author is too modest. The practicing dentist too, can benefit much from a study of its contents. It will crystalize for him much of his school day studies and their application to every day problems of treatment.

Dr. Bunting has selected as his collaborators some of the outstanding and respected members of the profession. They have kept in mind the needs of the dental hygienist, never "talking down" in their presentations.

In the opening chapter is a thorough discussion of the present status of dental caries. Explained is the role of carbohydrates and sugars as the chief offenders; the importance of mouth cleanliness, and the efficacy of the various anticaries agents recently and currently in the news. The mechanism of calculus deposition, both extragingival and subgingival are reported in detail.

Following is a chapter which deals with the basic anatomical features of mouth and teeth. Here the dental hygienist has excellent material for study. Knowing the normal, she can recognize the abnormal when in comes within her purview.

Chapters replete with information are included on histology, physiology, organic and inorganic concretions on teeth, an excellent presentation of periodontal diseases, stomatitis and other related subjects of special interest to the dentist and dental hygienist alike.

The principles of oral hygiene are of paramount importance to all members of the dental profession, dentist, teacher, student and dental hygienist. Caries, periodontal disease, malignancies, infection, esthetics, concretions, and many other oral pathoses have a definite affinity to this study.

It behooves us all to have a thorough knowledge of this most important subject and Dr. Bunting and his contributors have given us excellent material for serious consideration.

ALLAN N. ARVINS

The Human Masticatory Apparatus, by Meyer Klatsky, D.D.S., and Robert L. Fisher, D.D.S., Dental Items of Interest Publishing Co., New York, 1953, 272 pages, 85 illustrations. $6.00.

The authors have reviewed some of the basic tenets of anthropology with a view towards obtaining a fuller perspective of oral-dental disorders. They have reached two basic conclusions. First, there is no basis for assuming that the human masticatory apparatus is

undergoing degeneration of "retrogressive evolution." Second, most of our dental ills including caries, malocclusion and periodontal disease are attributable to improper diet and underfunction rather than genetic or evolutionary factors. They conclude that man can control these causative factors without sacrificing his civilized status.

While there is much to commend such an approach, a functional—developmental one, there is little original material or interpretation offered, but a wealth of pictorial material is displayed. We look forward to future editions in which the generalizations, particularly with regard to periodontal disease, are more fully developed, and in which anthropology will be more fully utilized as a treasure of facts from which inferences with a high degree of probability can be drawn.

Every practitioner of dentistry would benefit from reading this work. It is a welcome addition to dental literature.

ARTHUR N. YOHAI

Complete Dentures by Merrill G. Swenson, D.D.S., F.I.C.D., F.A.D.P., Third edition, 735 pages, St. Louis, C. V. Mosby Company, 1953. $13.50.

One of the foremost prosthodontists has presented in his third edition a complete and comprehensive text. The ability to understand the needs of the student and practitioner has no doubt motivated the author to convey his thoughts in a clear, precise and understandable manner.

Dr. Swenson seems well aware of the fact that the mechanical phases of denture construction have been over-emphasized many times. Therefore extensive coverage is given to the underlying fundamentals of denture prosthesis. Stress is placed on the need for knowledge of the relationship between the bony structures and muscles of mastication if denture prosthesis is to be a true health service.

In the chapter devoted to vertical dimension Dr. Swenson admits that this is one phase of denture construction in which it is difficult to arrive at a definite conclusion. As yet there seems to be no proof as to the most acceptable method for obtaining this record, and sometimes it may be necessary to compromise between esthetics and function.

In the discussion of occlusion the author states that perhaps one of the most important contributing factors to the breakdown of supporting structures is an unbalanced centric and eccentric occlusion in relation to the condylar path.

The short chapter devoted to immediate dentures describes the advantages obtained from this type of service, and points out the ability to maintain the vertical dimension, and with it better tissue resiliency. Also emphasized is the important psychological advantage of avoiding the humiliating edentulous period.

Swenson's Complete Dentures is a detailed, profusely illustrated text, showing both laboratory and chair procedures from oral examination through denture insertion and is recommended reading for student and practitioner.

MARVIN N. OKUN

Internal Medicine in Dental Practice, by Bernard I. Comroe, M.D., Leon H. Collins, Jr., M.D., Martin P. Crane, M.D., Fourth Edition, Lea and Febiger, Philadelphia, 1954, 563 pages, 116 illustrations. $7.50.

During the last two decades dentistry has evolved from the so-called mechanical era where emphasis was placed on the study of the restorative techniques, to the present era of being an integral part of complete treatment of the entire body. There has been evidence of increasing and very successful attempts to indicate that the tissues of the oral cavity are a mirror reflecting what is going on in the body. Several textbooks on oral diagnosis and oral medicine have been published. We see the meteor like rise of the speciality of periodontia. We read of the activities of various organizations devoted to dental and oral medicine. These are all indications of the dental profession's awareness of the direct relationship between the oral cavity and the rest of the body.

Up to recently, most of the research work and writing has been based on clinical observations made by dentists and followed through by some research in the laboratory to discover what relationships the clinical observations might have to the rest of the body. In this book the three physician authors have laid open the body to the dentist and are literally asking him to use this information to relate his oral clinical findings to the systemic picture. They have neglected no part of the body. Each body system is discussed fully, including the diseases related to it. Wherever a relationship to the oral cavity exists, they have included a full discussion. The cooperation between dentist and physician is tremendous.

Besides being a text book for relating systemic illness to the oral cavity, this is a text that will give the dentist interested in finding his place in the total treatment a good working knowledge of internal medicine. There are wonderful sections on focal infection and several very important sections on the use of antibiotics and the allergic manifestations relating to them. As in the previous editions, a summary of each section appears in a box at the end of the section. This is quite convenient for study purposes.

It would seem to me that a dentist wishing to be a complete dentist, rendering complete treatment and fitting into the complete diagnostic team would do well to read this book.

NATHAN WACHTEL

Periodontia, by Henry M. Goldman, D.M.D., C. V. Mosby Co., St. Louis, Third edition, 1953, 525 illustrations, including 12 in color, 790 pages. $16.00.

In the third edition of this text, Dr. Goldman discusses the basic problems in the field of periodontia in such a manner that the student and practitioner may receive an intelligible understanding of examination, diagnosis and therapy of the diseases of the supporting structures. The subject matter has been integrated to the status of the general problems of dentistry and dental therapeutics. The text emphasizes that each case of periodontal disease is an entity in itself, and that although it may follow a definite pattern, a plan for therapy must be worked out on the findings pertaining to the particular disease process at hand.

This third edition has been divided into twelve sections and twenty-nine chapters. Stress has been placed upon the etiology, examination, diagnosis, and techniques of therapy. To correlate etiology and diagnosis to the underlying tissue changes, the anatomy, physiology, and pathology of the periodontium have been presented in such a fashion that both students and practitioner can understand the basic principles involved.

Terminology in periodontia still remains in an unsettled state. In this text the recommendation of the Committee on Terminology and Classification of the American Academy of Periodontology has been followed.

The book is well organized and contains a tremendous amount of information. The type is large and clear and makes for easy reading. The long list of references appearing at the conclusion of each chapter enables the reader to pursue further that particular subject which interests him.

Oral Medicine—Diagnosis and Treatment, by Lester Burket, D.D.S., M.D., Sc.D., 575 pages, 372 illustrations, Philadelphia, J. B. Lippincott, 1952. $14.00.

The second edition of Oral Medicine has been completely revised to include many recent advances in the field. The systemic arrangement of material makes the book most suitable as a text. Emphasis is placed on the practical technics of oral diagnosis and treatment, together with a lucid description of every day medicine as it relates to the practice of dentistry.

A new section on oral cancer by Dr. S. Gordon Castigliano is one of the more important improvements in the new edition. Dr. Castigliano presents a statistical survey of oral cancer and compares it with malignancies in other parts of the body. This data is very well presented. Special emphasis is placed upon epidermoid carcinoma which the author contends involves about 90% of all oral cancer.

Included is a color atlas illustrating some of the oral lesions most commonly encountered by both dentist and physician. These color plates are so arranged that they can readily be used with the diagnostic index which follows it.

Oral Medicine gives the dental practitioner ample information concerning oral manifestations of systemic disease, as well as information concerning systemic disease which may contra-indicate certain types of dental treatment.

The text is a valuable contribution to the literature of dentistry and medicine.

Surgical Pathology of the Mouth, by E. Wilfred Fish, C.B.E., 463 pages, Philadelphia, J. B. Lippincott Co., 1951. $10.00.

The book was written in an effort to bring a closer relationship between dental practice and the basic sciences. The result is a text of pathology primarily for the dentist. Of necessity it is limited in scope and emphasizes cell degeneration, aberrations in growth and nutrition, inflammation and neoplasms which are of oral and dental interest.

The author states that the text should not be compared to some American compilations which describe every oral abnormality ever reported. He reiterates that only pathological phenomena with direct dental application has received comprehensive discussion.

The chapters concerned with inflammation and surgical pathology of bone deserve special commendation. Both the color reproductions and many photographs and photomicrographs are excellent.

Preventive Dentistry. By Joseph C. Muller, D.D.S., Ph.D., Assistant Professor, Department of Chemistry, School of Dentistry, Indiana University; Maynard K. Hine, D.D.S., M.S., Dean, School of Dentistry, Indiana University and Harry G. Day, Sc. D., Chairman, Department of Chemistry, Indiana University. 336 pages, illustrated, C. V. Mosby Company, St. Louis, Missouri. $8.50.

This is an interesting text on a subject that needs much more emphasis than was given it in the past. The mistaken notion that early dentistry is preventive dentistry needs revision. If the goal of Dentistry is true prevention of oral disease, this must be accomplished *before* its inception. Public health measures directed at proper nutrition, home care, education toward methods for prevention to be practiced by the patient, proper prenatal and delivery care to prevent tissue susceptibility, cleft palate, malocclusion and other disturbances that influence not only the oral health but also the very life of the patient, all fall into this category.

William Sharpe, the neurosurgeon, stresses the frequency with which intracranial hemorrhage is present at birth (some 9% of all cases). This may be

responsible, according to Sharpe, for up to 70% of the cases of cerebral palsy and could be controlled by simple measures that can be taken shortly after birth (Brain Surgeon, Viking, 1952). Yet many years may elapse before such procedures *already known*, are adopted for general use. So in Dentistry many preventive methods for caries, periodontal disease, malocclusion and cancer are already available. These must be emphasized and convincingly presented to the profession and the public so that the knowledge *already available* can bear fruit in true prevention.

The composition of this book is quite complete on the subject of caries prevention. It presents adequate documentation in quotations on the various phases of the subject and furnishes the reader with much modern material. It is nice to see that pros and cons are considered in the section on fluorides and that a broad approach is taken on many phases of the subject.

This reviewer would have liked to see more space devoted to the prevention of periodontal disease, malocclusion, deformities and aberrations of development, and to the malignancies. However, the book is a good start in the right direction and is certainly worthwhile reading material for the dentist and physician. No doubt in later editions a broadened emphasis on periodontal diseases which are responsible at present for more than half of all tooth loss, and more adequate discussion of cleft palate, hare-lip, malocclusions and growth abnormalities will place this book in a broader spectrum of service to the profession and public.

SAMUEL CHARLES MILLER

SPECIAL POSTGRADUATE COURSES OFFERED AT NEW YORK UNIVERSITY COLLEGE OF DENTISTRY DURING JUNE, 1954

Periodontia 123C	6/7/54—6/11/54	Daily	9-4
Periodontia 124	6/7/54—6/25/54	Daily	9-4
Complete Denture Prosthesis	6/7/54—6/18/54	Daily	9-4
Partial Dentures	6/7/54—6/18/54	Daily	9-4
Pulp-Canal Therapy	6/7/54—6/18/54	Daily	9-4
Practice Management 125B	6/14/54—6/18/54	Daily	1-4; 6-9

These two and three week courses include lectures and clinic experience in the many phases of theory and practice of dentistry.

A one-week special review course, Periodontia 123C is limited to students who have participated in other periodontia postgraduate courses.

For information write: Secretary, Postgraduate Division, New York University College of Dentistry, 209 East 23rd Street, New York 10, N.Y.

Announcements

POSTGRADUATE TRAINING IN PERIODONTIA AND ORAL MEDICINE NEW YORK UNIVERSITY COLLEGE OF DENTISTRY

The Periodontia Department of New York University College of Dentistry which has been giving postgraduate courses in this subject since 1926, announces its full time course in Periodontia and Oral Medicine for one academic year, September 20, 1954 to May 26, 1955, leading to a certificate. Two year full time, four year half time courses and two year half-time courses are also given.

A three weeks full time course starting June 7th, 1954 is given; also a ten session (one evening weekly) introductory course begins Oct. 6th, 1954. All courses are under the direct supervision of Dr. Samuel Charles Miller.

A two week full time course in the Spanish language is also available.

For information concerning the above or courses in other phases of dentistry write to Secretary, Postgraduate Division, New York University College of Dentistry, 209 East 23rd Street, New York 10, N. Y.

THE AMERICAN INSTITUTE OF DENTAL MEDICINE

The American Institute of Dental Medicine takes pleasure in announcing the publication of an Atlas on The Skeletal Development of the Rat, Normal and Hypohysectomized. The extensive material presented in this Atlas is a culmination of 14 years of intensive research by a collaborative team of the Institute of Experimental Biology and the Division of Dental Medicine, both of the University of California. The Atlas was written by Hermann Becks, M.D., D.D.S., Professor of Dental Medicine and Herbert M. Evans, M.D., Sc.D., Director, Institute of Experimental Biology, of the University of California.

The two volumes are excellent in the fulfillment of their purpose. Extremely helpful to students, teachers and investigators in the field of the biological sciences or institutions where the Long-Evans strain rat is used for experimental purposes.

The edition is limited. Price $48.00.

For further information address all correspondence to:

The American Institute of Dental Medicine
2240 Channing Way
Berkeley 4, California

UNIVERSITY OF CALIFORNIA

The Dental Program of the Extension division of the University of California at Los Angeles announces an eight week refresher course in dentistry starting in April 1954. This course will include lectures in fifteen (15) subjects and clinical and laboratory procedures involved in Operative Dentistry, Crown and Bridge, and Prosthetics.

For further details write to J. Eugene Ziegler, D.D.S., Head Dental Extension, 815 South Hill Street, Room 211, Los Angeles 14, California.

TUFTS COLLEGE DENTAL SCHOOL

The following courses listed below will be presented at Tufts College Dental School during 1954. Application and further information may be obtained by writing the Director, Division of Graduate and Postgraduate Studies, Tufts College Dental School, 136 Harrison Avenue, Boston 11, Mass.

DPG. 710—Partial Denture Construction
3 days—Wednesday through Friday
April 28, 29, 30, 1954
Tuition $100.00
Dr. Lawrence Clayman and Dr. Louis Schorr

DPG. 503—Oral Pediatrics
Five consecutive days—9 a.m. to 5 p.m. July 12-16, 1954
Tuition $125.00 Class limited to 12
Dr. John C. Brauer
Dean, School of Dentistry, University of North Carolina

DPG. 704—Occluso—Rehabilitation I—Lecture and Seminar Course
Monday through Friday
Sept. 20-24, 1954 inclusive, 9 a.m. to 5 p.m.
Tuition $250.00
Dr. Louis Alexander Cohn

DPG. 705—Occluso—Rehabilitation II—Special Participation Course
Every other week on Friday and Saturday 9 a.m. to 5 p.m.
Seven months beginning October 15, 1954
Tuition $1000.00—Enrollment limited to twelve
Dr. Louis Alexander Cohn

HARVARD SCHOOL OF PUBLIC HEALTH

The Harvard School of Public Health will give postgraduate scholarships in amounts ranging up to $5,000 to qualified candidates desiring to study at the School during the academic year 1954-55.

Those eligible for Harvard School of Public Health postgraduate scholarships include physicians, dentists and veterinarians interested in preventive medicine and seeking training in one or more Public Health specialties leading to either a Master of Public Health or Doctor of Public Health degree.

Deadline for filing scholarship applications is April 30, 1954. Scholarship winners will be announced June 1, 1954. Application for further information about the Harvard School of Public Health Postgraduate Scholarships may be obtained by writing the Secretary, Harvard School of Public Health, 55 Shattuck Street, Boston 15, Massachusetts.

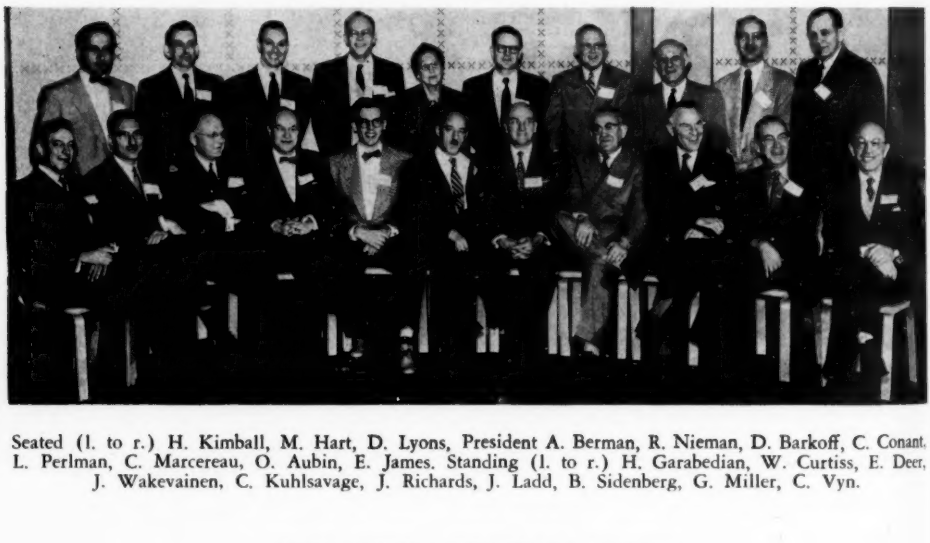
Academy Proceedings

MICHIGAN SECTION CHARTERED

The Michigan Section of the American Academy of Dental Medicine was presented with a Charter on Friday evening, January 29th, 1954, at the Detroit Yacht Club, Detroit, Michigan. Academy President, Dr. Alvin H. Berman, presented the Charter to the Michigan Section. He gave a fine talk on the aims and principles of the Academy.

Despite inclement weather, nineteen of the twenty-two members were present. Eleven guest and prospective members witnessed the Charter presentation ceremonies.

The Officers of the Michigan section are as follows: President, Dr. Horton D. Kimball; Vice-President, Dr. Don Chalmers Lyons; Secretary, Dr. James Ladd; Treasurer, Dr. Edwin W. Deer; and Delegate of Michigan Section, Dr. Edgar James.



Seated (l. to r.) H. Kimball, M. Hart, D. Lyons, President A. Berman, R. Nieman, D. Barkoff, C. Conant. L. Perlman, C. Marcereau, O. Aubin, E. James. Standing (l. to r.) H. Garabedian, W. Curtiss, E. Deer, J. Wakevainen, C. Kuhlsavage, J. Richards, J. Ladd, B. Sidenberg, G. Miller, C. Vyn.

NEW YORK SECTION MEETS

The New York Section of the American Academy of Dental Medicine cordially invites its members and friends to attend a section meeting on Thursday, April 22, 1954 at 8 P.M. at the Hotel New Yorker, New York, N. Y.

The speaker for this meeting will be Dr. Domminick D. DiMaio who will present a paper entitled "Pathological Correlation of Periodontal Disease". Dr. DiMaio is in charge of the Pathology Department of New York Polyclinic Medical School and Hospital, and he is Assistant Medical Examiner for the City of New York. He is at present engaged in extensive research in the field of Periodontia. The material to be presented will be of practical value to the dental practitioner.

ACADEMY PAST PRESIDENT NAMED HONORARY PROFESSOR

Dr. Samuel Charles Miller, Professor of Periodontia and Chairman of the Perio dontia Department at New York University College of Dentistry has been recently named Honorary Professor of the University of Santo Domingo, Trujillo City, Dominican Republic.

The honor was accorded Dr. Miller, states the citation, because he has achieved "an outstanding meritorius service" in the field of periodontia and "has distinguished himself in the teaching as well as in the practice of this discipline."

Dr. Miller joined the New York University College of Dentistry faculty in 1925. He is the author of two textbooks, "Textbook of Periodontia," and "Oral Diagnosis and Treatment" and has contributed 70 articles on his specialty to professional journals. He is also an honorary member of the Bolivian Dental Association and of the Primer Congreso National de Odontologos of Columbia.

SPRING MEETING—NEW JERSEY SECTION

A regular meeting of the New Jersey Section of the American Academy of Dental Medicine will be held on Tuesday evening, April 13th, 1954 at the Hotel Douglas, Newark, New Jersey. Academy members and their friends will meet for dinner at 6:30 P.M. and the business meeting will commence at 8:30 P.M. The main speaker for this meeting will be Dr. Lester Kahn who will speak on "The Importance of Correlating Clinical Signs with Laboratory Procedures."

All Academy members and their friends are cordially invited.

ACADEMY SECRETARY HONORED

Dr. William M. Greenhut, Academy secretary, was honored by the Dental Staff of the Bronx Hospital on February 25, 1954 at a dinner-dance at Holiday Inn, Hartsdale, N. Y. Dr. Greenhut was presented with a scroll "in recognition of his loyal, efficient and outstanding services performed in furthering the interests of the Dental Department as Attending in the Department of Periodontia" at the Bronx Hospital, New York. The Department of Periodontia and Oral Medicine was organized by Dr. Greenhut and he has been active in its maintenance and improvement through the years. At present, he is also Director of Periodontal Research at the hospital.

DR. PHILIPPE HAMEL

It is with deep regret that the American Academy of Dental Medicine learned of the passing of Dr. Philippe Hamel, of Quebec, Canada on January 22, 1954. For almost five decades Dr. Hamel was actively engaged in the practice of dentistry, dental education and dental affairs. He was a past president of the Canadian Dental Association, and at one time was a member of the Provincial Legislature. Beside being affiliated with the Medical Faculty of Laval University, he was the Chief Dental Surgeon at several hospitals in the Quebec area. He wrote several papers on dental caries which were published in the Journal of the Canadian Dental Association.

The Academy membership extends its sincerest condolences to his family.

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Penn Sherwood Hotel **Philadelphia, Pa.**

May 14, 15, 16, 1954

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- ☐ Enclosed is Ladies' Registration Fee.....$30.00*
- ☐ Registration Fee for Non-Members.....$40.00*

*This covers all fees, for luncheons, banquets, cocktail parties, ladies' tours and theatre tickets for the entire convention.

I will bring.....children.

Dr. .....

Address .....

☐ I have filled out and mailed the Hotel Reservation Card.